# COLOR TELEVISION RECEIVER

**Chassis :** SCT13B
**Model:** CK3385ZR4X/BWT
CK5085ZR4X/BWT
CK5385ZR4X/BWT

# SERVICE Manual

## COLOR TELEVISION RECEIVER

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Printed in Korea
**3SCT13B-85K301**

# 1. Precautions

Follow these safety, servicing and ESD precautions to prevent damage and protect against potential hazards such as electrical shock and X-rays.

## 1-1 Safety Precautions

1. Be sure that all of the built-in protective devices are replaced. Restore any missing protective shields.

2. When reinstalling the chassis and its assemblies, be sure to restore all protective devices, including: nonmetallic control knobs and compartment covers.

3. Make sure that there are no cabinet openings through which people—particularly children—might insert fingers and contact dangerous voltages. Such openings include the spacing between the picture tube and the cabinet mask, excessively wide cabinet ventilation slots, and improperly fitted back covers.

   If the measured resistance is less than 1.0 megohm or greater than 5.2 megohms, an abnormality exists that must be corrected before the unit is returned to the customer.

4. Leakage Current Hot Check (Figure 1-1):
   Warning: Do not use an isolation transformer during this test. Use a leakage-current tester or a metering system that complies with American National Standards Institute (ANIS C101.1, Leakage Current for Appliances), and Underwriters Laboratories (UL Publication UL1410, 59.7).

5. With the unit completely reassembled, plug the AC line cord directly into the power outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: antennas, handle brackets, metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

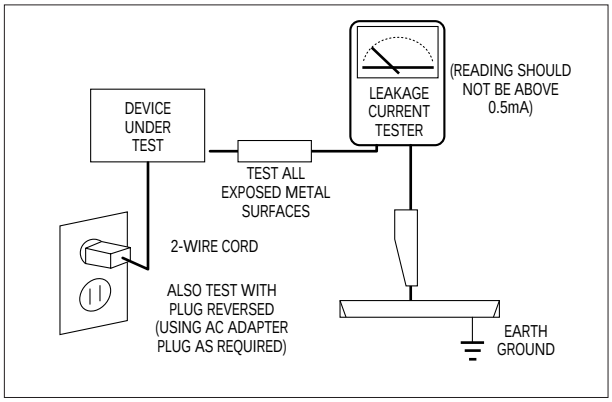

DEVICE UNDER TEST
LEAKAGE CURRENT TESTER
(READING SHOULD NOT BE ABOVE 0.5mA)
TEST ALL EXPOSED METAL SURFACES
2-WIRE CORD
ALSO TEST WITH PLUG REVERSED (USING AC ADAPTER PLUG AS REQUIRED)
EARTH GROUND

Fig. 1-1 AC Leakage Test

6. Antenna Cold Check:
   With the unit's AC plug disconnected from the AC source, connect an electrical jumper across the two AC prongs. Connect one lead of the ohmmeter to an AC prong. Connect the other lead to the coaxial connector.

7. X-ray Limits:
   The picture tube is especially designed to prohibit X-ray emissions. To ensure continued X-ray protection, replace the picture tube only with one that is the same type as the original. Carefully reinstall the picture tube shields and mounting hardware; these also provide X-ray protection.

8. High Voltage Limits:
   High voltage must be measured each time servicing is done on the B+, horizontal deflection or high voltage circuits. Correct operation of the X-ray protection circuits must be reconfirmed whenever they are serviced. (X-ray protection circuits also may be called "horizontal disable" or "hold-down".)

   Heed the high voltage limits. These include the X–ray Protection Specifications Label, and the Product Safety and X-ray Warning Note on the service data schematic.

## 1-1 Safety Precautions (Continued)

9. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.

10. Design Alteration Warning:
Never alter or add to the mechanical or electrical design of this unit. Example: Do not add auxiliary audio or video connectors. Such alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.

11. Hot Chassis Warning:
Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord. If an isolation transformer is not used, these units may be safely serviced only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC source.

    To confirm that the AC power plug is inserted correctly, do the following: Using an AC voltmeter, measure the voltage between the chassis and a known earth ground. If the reading is greater than 1.0V, remove the AC power plug, reverse its polarity and reinsert. Re-measure the voltage between the chassis and ground.

12. Some TV chassis are designed to operate with 85 volts AC between chassis and ground, regardless of the AC plug polarity. These units can be safely serviced only if an isolation transformer inserted between the receiver and the power source.

13. Some TV chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulating material that must not be defeated or altered.

14. Components, parts and wiring that appear to have overheated or that are otherwise damaged should be replaced with parts that meet the original specifications. Always determine the cause of damage or overheating, and correct any potential hazards.

15. Observe the original lead dress, especially near the following areas: Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that leads and components do not touch thermally hot parts.

16. Picture Tube Implosion Warning:
The picture tube in this receiver employs "integral implosion" protection. To ensure continued implosion protection, make sure that the replacement picture tube is the same as the original.

17. Do not remove, install or handle the picture tube without first putting on shatterproof goggles equipped with side shields. Never handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; do not try to remove such "permanently attached" yokes from the picture tube.

18. Product Safety Notice:
Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original—even if the replacement is rated for higher voltage, wattage, etc.

    Components that are critical for safety are indicated in the circuit diagram by shading, (⚠) or (⚠).
    Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications.
    A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

## 1-2 Servicing Precautions

Warning1: First read the "Safety Precautions" section of this manual. If some unforeseen circumstance creates a conflict between the servicing and safety precautions, always follow the safety precautions.
Warning2: An electrolytic capacitor installed with the wrong polarity might explode.

1. Servicing precautions are printed on the cabinet. Follow them.

2. Always unplug the unit's AC power cord from the AC power source before attempting to: (a) Remove or reinstall any component or assembly, (b) Disconnect an electrical plug or connector, (c) Connect a test component in parallel with an electrolytic capacitor.

3. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.

4. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the portion around the serviced part has not been damaged.

5. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).

6. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500V) to the blades of the AC plug.

   The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.

7. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.

8. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

## 1-3 Precautions for Electrostatically Sensitive Devices (ESDs)

1. Some semiconductor ("solid state") devices are easily damaged by static electricity. Such components are called Electrostatically Sensitive Devices (ESDs); examples include integrated circuits and some field-effect transistors. The following techniques will reduce the occurrence of component damage caused by static electricity.

2. Immediately before handling any semicon ductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. (Be sure to remove it prior to applying power—this is an electric shock precaution.)

3. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of electrostatic charge.

4. Do not use freon-propelled chemicals. These can generate electrical charges that damage ESDs.

5. Use only a grounded-tip soldering iron when soldering or unsoldering ESDs.

6. Use only an anti-static solder removal device. Many solder removal devices are not rated as "anti-static"; these can accumulate sufficient electrical charge to damage ESDs.

7. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.

8. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.

9. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting a foot from a carpeted floor can generate enough static electricity to damage an ESD.

# 2. Specifications and IC Data

## 2-1 Specifications

Television System:

| MODEL | SYSTEM |
|---|---|
| CI | PAL-I (UHF) |
| CII | PAL-I (VHF/UHF) |
| CX | PAL-B/G, SECAM-B/G |
| CK | PAL-B/G, D/K, SECAM-B/G, D/K |
| CW | PAL-B/G, D/K, SECAM-B/G, D/K, NT 4.43 |
| CS | PAL-B/G, D/K, SECAM-B/G, D/K, NT4.43, NT3.58 |

Channels:

| System / Band | PAL/SECAM-B/G,I | PAL, SECAM- D/K | SECAM-K1, PAL-D | NTSC - M |
|---|---|---|---|---|
| VHF | 2 - 12 | 1 - 13 | 2 - 9 | 2 - 13 |
| UHF | 21 - 69 | 21 - 69 | 13 - 57 | 14-69 |

Intermediate Frequencies (MHz) :

| SYSTEM / IF Carrier Frequency | PAL/ SECAM- B/G | PAL/SECAM-D/K, SECAM-K1 | PAL - I | NTSC - M |
|---|---|---|---|---|
| Picture IF Carrier | 38.90 | 38.90 | 38.90 | 38.90 |
| Sound IF Carrier | 33.40 | 32.40 | 32.90 | 34.40 |
| Color Sub Carrier | 34.47 | 34.47 | 34.47 | 35.32 |

Picture Tube:

| | | |
|---|---|---|
| 14 Inch | A34KQV42X | Quick start, in-line-gun, |
| 20 Inch | A48KRD82X | Black stripe, 90°degree deflection |
| 21 Inch | A51KQJ63X | |

Power Requirements: AC 100~260V, 50/60Hz

Antenna Input Impedance: VHF, UHF : Telescopic dipole antenna (75 ohm unbalanced type )

Speaker Impedance
8 ohm, 5W+5W (Dual Type)
16 ohm, 3W (Monitor Type)

## 2-2 IC Line Up

Table 2-1 IC Line-Up

| Loc. No | Specification | Description | Remark |
|---|---|---|---|
| HC101 | PAP102 | IF PRE-AMP | |
| IC201 | TDA8374A N3 | PAL-B/G, SECAM-B/G, NTSC | Philips |
| IC202 | TDA4665 | 1H DELAY | SECAM MODULE |
| IC203 | TDA8395P | SECAM DECODER | |
| IC301 | TDA8356 | VERTICAL OUTPUT | |
| IC501 | TDA6107Q | RGB DRIVE AMP | |
| IC601 | TDA7056B | SOUND-AMP (3.5W) | Monitor Type |
| IC602 | TDA7057AQ | SOUND-AMP (5W+5W) | Dual Type |
| IC801 | KA3S0680R | POWER IC (STR) | |
| IC802 | KA7630 | CUSTOM REGULATOR (5V, 8V) | |
| IC901 | SZM193EA | W/O TTX, English/French/Arabian | Zilog (Non TTX) |
| | SZM193EV | W/O TTX, English/Vietnames/Indonesian/Maly/Thai | |
| | SZM193EC | W/O TTX, English/Chinese | |
| | SZM191EC | W/O TTX, English/Chinese | |
| | SZM193EE | W/O TTX, English/German/French/Dutch/Italian/Spanish, Swedish/Romanian/Hungarian/Croatian/Polish/Russian, Czech/Bulgarian/Yugo/Greek | |
| | SZM191ER | W/O TTX, English/Russian (Only for Oceania model) | |
| | SPM197EE | TTX, West : English/German/French/Dutch/Italian/Spanish/Swedish<br>East : English/Czech/Croatian/Romanian/Hungarian/Polish | Philips (TTX) |
| | SPM197ER | TTX, English/Russian/Bulgarian | |
| | SPM197EP | TTX, English/Iranian | |
| | SPM197EA | TTX, English/French/Arabian | |
| | SPM197EG | TTX, English/Greek/Yugo | |
| IC902 | 24C04 | EEPROM | |
| IC903 | KiA7042P | RESET IC ,W/O TTX Model | Zilog |
| | KiA7442P | TTX Model | Philips |
| IC401 | KA7812 | REGULATOR (12V) | |
| PC801 | LTV817B | PHOTO COUPLER | NEC |

## 2-3 Semiconductor Base Diagrams

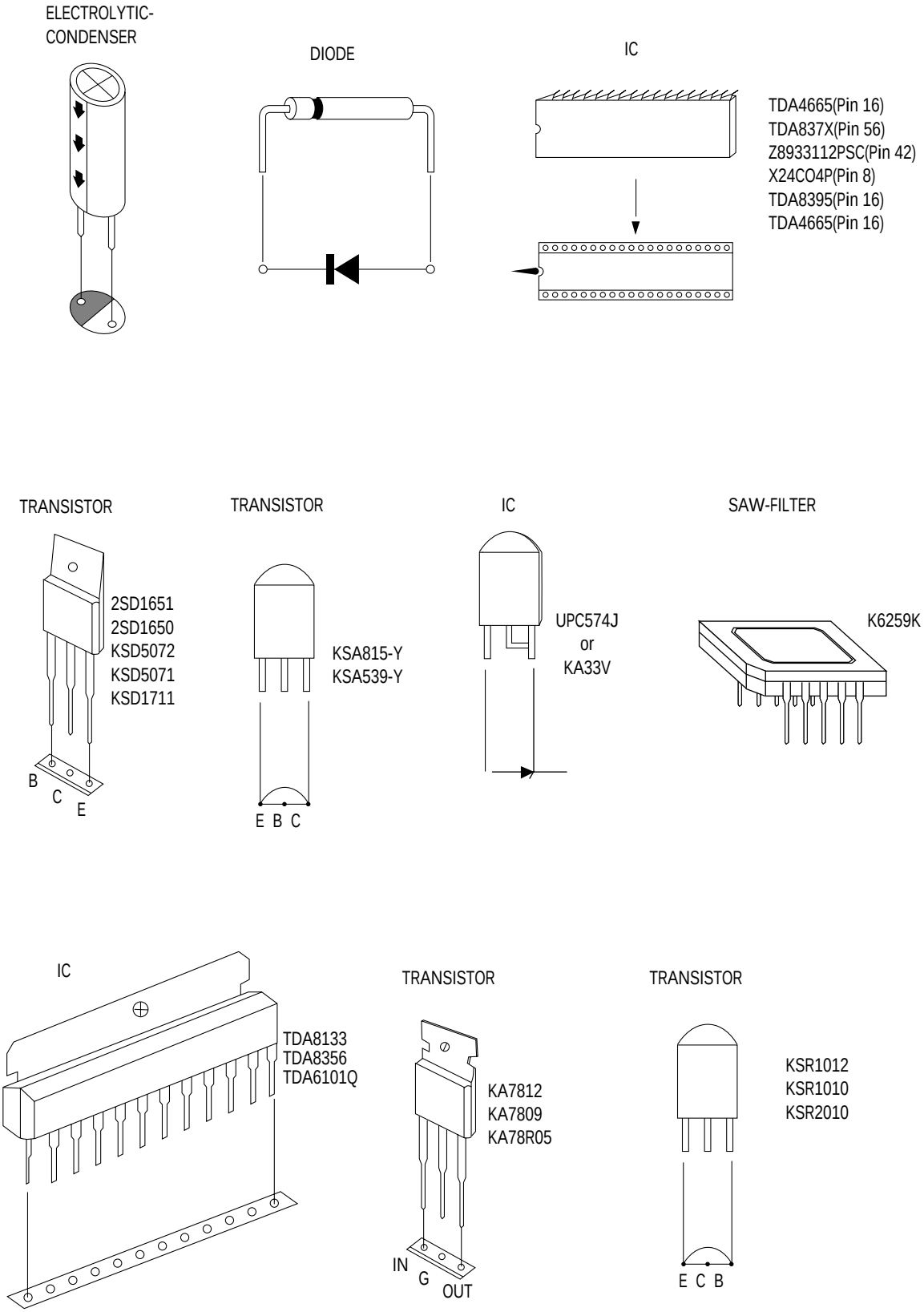
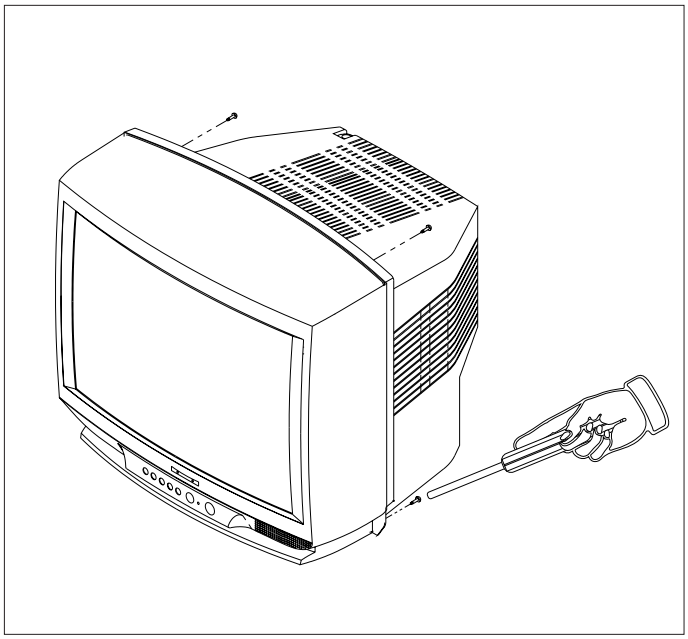



Fig. 2-1 Semiconductor Base Diagrams

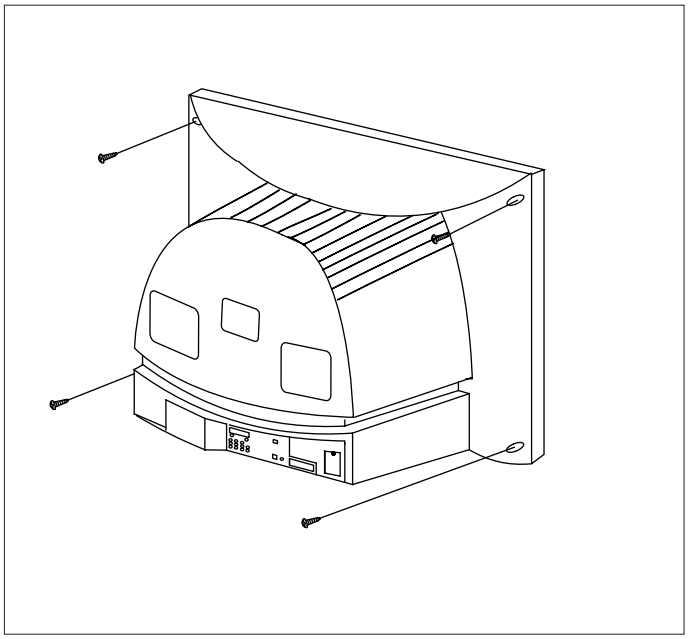
# MEMO

# 3. Disassembly and Reassembly

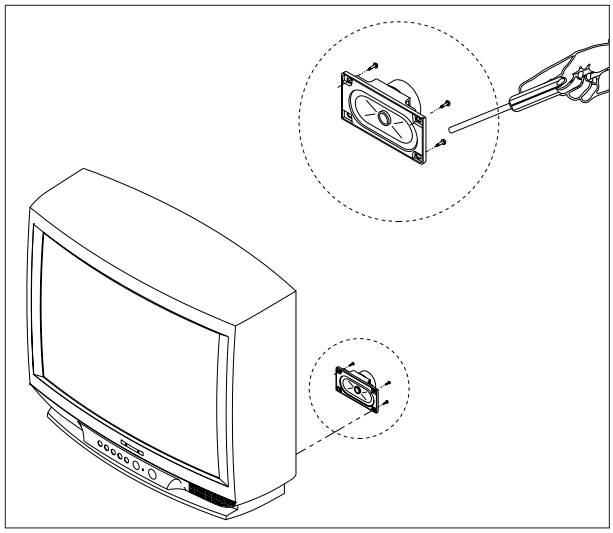
## 3-1 Back Cover Removal

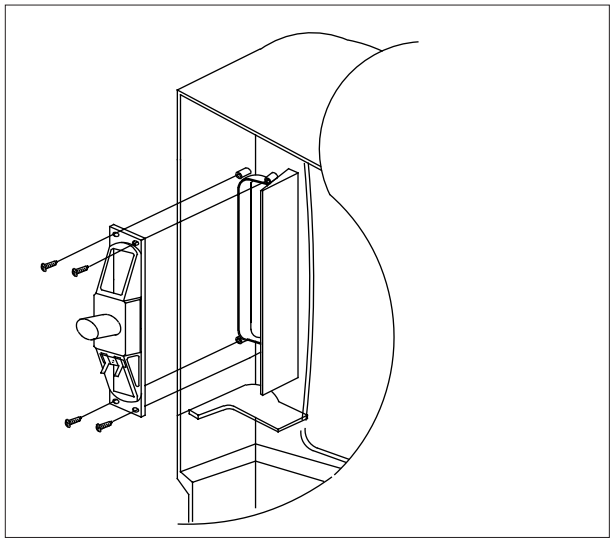


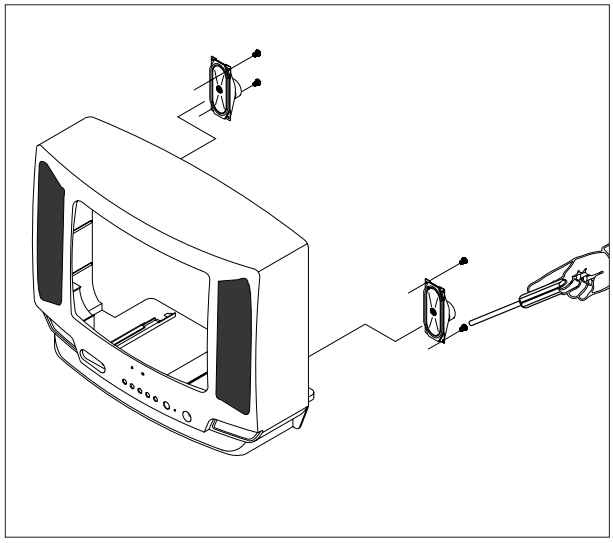
1. After removing the 9 screws, pull the cabinet backwards.



## 3-2 Speaker Removal

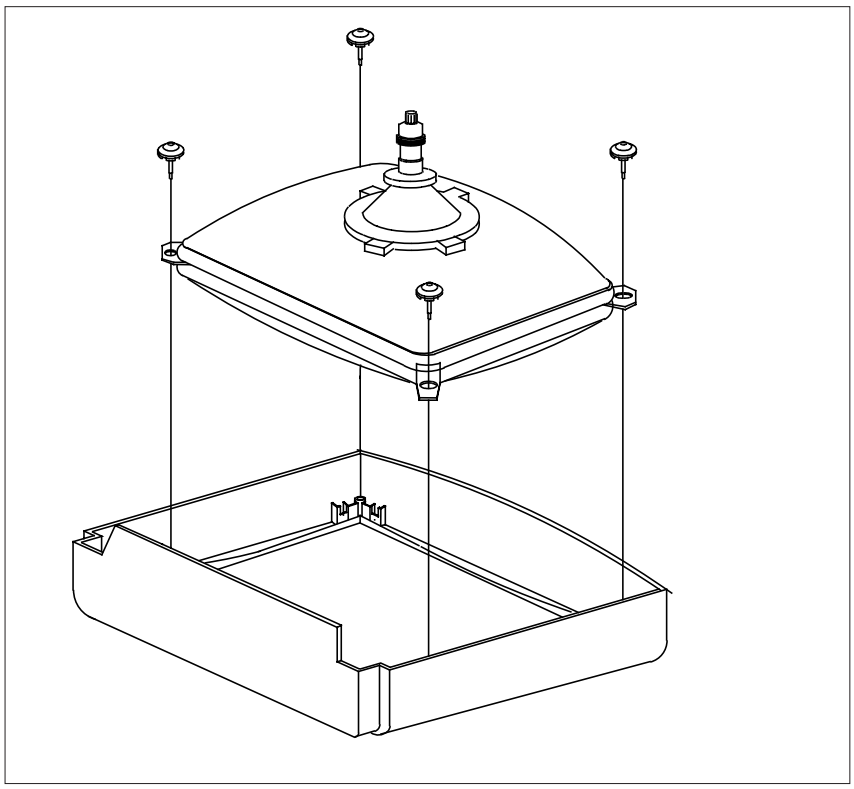






1. Loosen the 4 screws and remove the holder - speakers.

## 3-3 CRT Removal



1. Spread a soft mat on the floor. Place the TV set face down.
2. Remove the 4 screws mounting the CRT to the front cabinet.
3. Lift the CRT.

# MEMO

# 4. Alignment and Adjustments

## 4-1 Preadjustment

### 4-1-1 Factory Mode

1. Do not attempt these adjustments in the Video Mode.

2. The Factory Mode adjustments are necessary when either the EEPROM (IC902) or the CRT is replaced.

3. Do not tamper with the “Adjustment” screen of the Factory Mode menu. This screen is intended only for factory use.

### 4-1-2 When EEPROM (IC902) Is Replaced

1. When IC902 is replaced all adjustment data revert to initial values. It is necessary to re-program this data.

2. After IC902 is replaced, warm up the TV for 10 seconds.

### 4-1-3 When CRT Is Replaced

1. Make the following adjustments AFTER setting up after setting up purity and convergence :

   White Balance
   Sub-Brightness
   Vertical Center
   Vertical Size
   Horizontal Size
   Fail Safe (This adjustment must be the last step).

2. If the EEPROM or CRT is replaced, set SC and PVA to 10 and 45 (Factory mode).

   SC : 14, 16 Inch : 0
   20, 21 Inch : 10

## 4-2 Factory/Service Mode

### 4-2-1 Procedure for the “Adjustment” Mode

1. This mode uses the standard remote control. The Service Mode is activated by entering the following remote-control sequence :

   (1) SLEEP→FACTORY.

   (2) STAND-BY→P.STD→HELP→SLEEP →POWER ON.

2. The “SERVICE (FACTORY)” message will be displayed. The Service Mode has four components: Adjustment, Test Pattern, Option Bytes and Reset.

3. Access the Adjustment Mode by pressing the “VOLUME” keys ( Up or Down).
   The adjustment parameters are listed in the accompanying table, and selected by pressing the CHANNEL keys (▲ ,▼).

4. Selection sequences for the PAL system:

   DOWN or UP key:
   AGC>VCO>SBT>SCT>SCR>SC>RG>
   GG>BG>CDL>BLU>PSL>PVS>PVA>PHS

5. Selection sequences for the NTSC system:

   DOWN or UP key:
   AGC>VCO>SBT>SCT>SCR>SC>RG>
   GG>BG>CDL>BLU>NSL>NVS>NVA>NHS

6. The VOLUME keys increase or decrease the adjustment values, (stored in the non-volatile memory when Adjustment Mode is cancelled).

7. Cancel the Adjustment Mode by re-pressing the “FACTORY” or Power OFF.

## 4-2-2 Main Adjustment Parameter

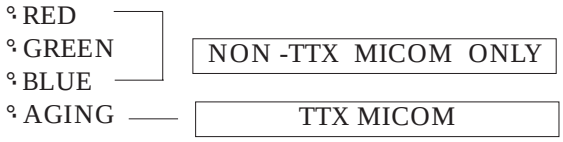
| Table 4-1 Main Adjustment Parameter (Zilog, Phlips μ-com) | | | | |
|---|---|---|---|---|
| FUNCTION | OSD ABBREVIATION | RANGE | INITIAL DATA | REMARKS |
| AUTO GAIN CONTROL | AGC | 0 ~ 63 STEP | 32 | TDA8374 |
| SUB BRIGHT | SBT | 0 ~ 23 STEP | 7 | |
| SUB CONTRAST | SCT | 0 ~ 23 STEP | 7 | |
| SUB COLOR | SCR | 0 ~ 23 STEP | 13 | |
| RED DRIVE GAIN | RG | 0 ~ 63 STEP | 32 | |
| GREEN DRIVE GAIN | GG | 0 ~ 63 STEP | 32 | |
| BLUE DRIVE GAIN | BG | 0 ~ 63 STEP | 32 | |
| PAL VERTICAL SLOPE | PSL | 0 ~ 63 STEP | 20 | |
| PAL VERTICAL SHIFT | PVS | 0 ~ 63 STEP | 32 | |
| PAL VERTICAL AMPLITUDE | PVA | 0 ~ 63 STEP | 45 | |
| PAL HORIZONTAL SHIFT | PHS | 0 ~ 63 STEP | 32 | |
| NTSC VERTICAL SLOPE | NSL | 0 ~ 63 STEP | 20 | |
| NTSC VERTICAL SHIFT | NVS | 0 ~ 63 STEP | 32 | |
| NTSC VERTICAL AMPLITUDE | NVA | 0 ~ 63 STEP | 45 | |
| NTSC HORIZONTAL SHIFT | NHS | 0 ~ 63 STEP | 32 | |
| VOLTAGE CONTROL OSCILLATOR | VCO | 0 ~ 128 STEP | 64 | |
| S-CORRECTION | SC | 0 ~ 63 STEP | 32 | |
| TTX SUB-CONTRAST | TSS | 0 ~ 63 STEP | 16 | |
| CATHODE DRIVE LEVEL | CDL | 0 ~ 7 STEP | 3 | TDA8842 |
| BLUE STRETCH MODE | BLU | 0 ~ 3 STEP | 2 | |

NOTE : PVS,PVA, PHS, NVS, NVA,NHS parameters must be aligned using both the 50Hz and 60Hz vertical-field rates.

## 4-2-3 Test Pattern (Aging Mode)

1. This mode can be used during servicing, or for confirming that the convergence and purity adjustments are correct.

2. Access the Test Pattern parameters by pressing a CHANNEL keys (▲ ,▼) while the Service Mode is on. The cursor will move to the test pattern. Press the VOLUME keys. On-screen display:




3. AGING Mode (Reference Only)

   This pattern is used for pre-heating the CRT during manufacturing—it is accessed in the factory by twice pressing the "SLEEP → FACTORY→FACTORY " key, then white pattern will be displayed.

   Even if the TV power is cut off, the Aging Mode is not cancelled, The aging mode is cancelled by repressing the "FACTORY" key or pressing the local "CH UP/DOWN" key.

   The patterns are displayed at 5 sec intervals : NON-TTX Micom only.

## 4-2-4 Option Bytes

In the Service Mode, various can be selected via the Option Bytes (8 bits each). Example:

SYSTEM OSD DISPLAY

| | BIT 6 | BIT 5 | BIT 4 | BIT 3 | BIT 2 | BIT 1 | BIT 0 |
|---|---|---|---|---|---|---|---|
| BYTE 0 : 8 - | | | L (BIT : 0) | H (BIT : 8) | L (BIT : 0) | L (BIT : 0) | L (BIT : 0) |
| BYTE 1 : 0 - | L (BIT :0) | L (BIT : 0) | L (BIT : 0) | L (BIT : 0) | L (BIT : 0) | L (BIT : 0) | L (BIT : 0) |

TDA8374, CK SYSTEM, RCA JACK SYSTEM OSD DISPLAY

| | | | | | | |
|---|---|---|---|---|---|---|
| BYTE 0 : 11 | L (BIT : 1) | H (BIT : 0) | L (BIT : 0) | H (BIT : 0) | L (BIT : 1) | |

## 4-2-4 (A) OPTION BYTE TABLE

<table>
<tr><th>BYTE</th><th>BIT</th><th>LOW (0)</th><th>HIGH (1)</th><th>Application MICOM</th></tr>
<tr><td rowspan="8">BYTE0</td><td>D7</td><td>-</td><td></td><td>-</td></tr>
<tr><td>D6</td><td>16:9 not functional during “Zoom” in the A/V Mode</td><td>16:9 functional during “Zoom” in the A/V Mode</td><td></td></tr>
<tr><td>D5</td><td>No Child Lock</td><td>Child Lock</td><td></td></tr>
<tr><td>D4</td><td>CH Up/down functional in the A/V mode (SCART Jack)</td><td>CH Up/down not functional in the A/V mode (RCA Jack)</td><td></td></tr>
<tr><td>D3</td><td>SOUND-I SYSTEM USED</td><td>SOUND-I SYSTEM NOT USED</td><td></td></tr>
<tr><td>D2<br>D1</td><td colspan="2"><table>
<tr><th>D2</th><th>D1</th><th>COLOR SYSTEM</th><th>SOUND SYSTEM</th></tr>
<tr><td>0</td><td>0</td><td>CK : PAL ONLY (NO OSD)</td><td>B/G→D/K → I</td></tr>
<tr><td>0</td><td>1</td><td>CW : -. RF : AUTO→PAL →SECAM→NT4.43<br>-. A/V : AUTO→PAL→SECAM →NT4.43 →NT3.58</td><td>B/G→D/K → I</td></tr>
<tr><td>1</td><td>0</td><td>CB : -RF : PAL ONLY<br>-A/V : AUTO→PAL →NT4.43→NT3.58</td><td>B/G ONLY ( No OSD)</td></tr>
<tr><td>1</td><td>1</td><td>CS : - RF : AUTO→PAL →SECAM →NT4.43→NT 3.58<br>-A/V : AUTO→PAL →SECAM →NT4.43 →NT3.58</td><td>B/G→D/K →I→<br>NT →M</td></tr>
</table></td><td></td></tr>
<tr><td>D0</td><td colspan="2">TDA8374</td><td>TDA8842</td><td>Onechip</td></tr>
<tr><td rowspan="8">BYTE1</td><td>D7<br>D6</td><td colspan="3"><table>
<tr><th>D7</th><th>D6</th><th>Southeast/Middle East Asia /Africa</th><th>Vietnam/India</th><th>Thailand/Malaysia</th><th>CIS</th><th>China</th></tr>
<tr><td>0</td><td>0</td><td>English Only</td><td>English Only</td><td>English Only</td><td>English Only</td><td>English only</td></tr>
<tr><td>0</td><td>1</td><td>English/Arabian</td><td>English/Vietnamese</td><td>English/Thai</td><td>English/CIS</td><td>English /Chinese</td></tr>
<tr><td>1</td><td>0</td><td>English/Arabian/French</td><td>English/Indonesian</td><td>English/Malay</td><td></td><td></td></tr>
<tr><td>1</td><td>1</td><td>English Only</td><td>English/Vietnamese /Indonesian</td><td>English/Thai /Malay</td><td></td><td></td></tr>
</table></td><td></td></tr>
<tr><td>D5</td><td colspan="2">AFT ON (always)</td><td>AFT OFF (after fine tuning)</td><td></td></tr>
<tr><td>D4</td><td colspan="2">Existing sharpness level</td><td>Sharpness level Up</td><td>March 12, 1997</td></tr>
<tr><td>D3</td><td colspan="2">No Auto Power On</td><td>Auto Power ON</td><td>Last State Memory</td></tr>
<tr><td>D2</td><td colspan="2">NTSC : 25KHz (NTSC Table)<br>PAL : 50KHz (PAL Table)</td><td>NTSC : 25KHz (NTSC Table)<br>PAL : 50KHZ (PAL Table)</td><td>PAL Table always used in the A/V Mode (March 12, 1997)</td></tr>
<tr><td>D1<br>D0</td><td colspan="3"><table>
<tr><th>D1</th><th>D0</th><th>System</th></tr>
<tr><td>0</td><td>0</td><td>DIG</td></tr>
<tr><td>0</td><td>1</td><td>D/K</td></tr>
<tr><td>1</td><td>0</td><td>I</td></tr>
<tr><td>1</td><td>1</td><td>NT-M</td></tr>
</table></td><td>Sound system during the auto search (All should be set for the system which is selected during the Factory Reset.)</td></tr>
</table>

## 4-2-4 (B) TTX MICOM (SPM-197EE/ER/EG) OPTION TABLE (FOR EUROPE)

<table>
<tr><th>BYTE</th><th>BIT</th><th>LOW (0)</th><th>HIGH (1)</th><th>Application MICOM</th></tr>
<tr><td rowspan="8">BYTE 0</td><td>D7</td><td>3 BAND</td><td>UHF ONLY</td><td>ALL</td></tr>
<tr><td>D6</td><td>16:9 not functional during zoom in the A/V mode (NORMAL-ZOOM)</td><td>16:9 functional during zoom in the A/V mode (NORMAL-ZOOM-16:9)</td><td>ALL (BASIC : LOW)</td></tr>
<tr><td>D5</td><td>LED RED AT STAND-BY</td><td>LED GREEN AT STAND-BY (POLAND)</td><td>ALL (J900 DELETE AT H)</td></tr>
<tr><td>D4</td><td>CH Up/down functional in the A/V mode (SCART Jack)</td><td>CH Up/down not functional in the A/V mode (RCA Jack)</td><td>ALL</td></tr>
<tr><td>D3</td><td>P-STD MAX</td><td>P-STD NORMAL</td><td>ALL (BASIC : HIGH)</td></tr>
<tr><td>D2<br>D1</td><td colspan="2"><table>
<tr><th>D2</th><th>D1</th><th>SOUND SYSTEM</th><th>COLOR SYSTEM</th></tr>
<tr><td>0</td><td>0</td><td>B/G ↔ D/K : CK MODEL</td><td rowspan="4">AUTO<br>(NO OSD)</td></tr>
<tr><td>0</td><td>1</td><td>I ONLY (NO OSD) : CI, CII MODEL</td></tr>
<tr><td>1</td><td>0</td><td>B/G ONLY (NO OSD) : CB, CX MODEL</td></tr>
<tr><td>1</td><td>1</td><td>NOT USED</td></tr>
</table></td><td>ALL</td></tr>
<tr><td>D0</td><td colspan="2">TDA8374A</td><td>TDA8842</td><td>ALL</td></tr>
<tr><td rowspan="8">BYTE 1</td><td>D7<br>D6</td><td colspan="2">NOT USED</td><td>ALL (FIX : LOW)</td></tr>
<tr><td>D5</td><td>Western OSD<br>:English/German/French/Dutch/<br>Italian/Spanish/Swedish</td><td>Eastern OSD<br>:English/Croatian/Rumanian/<br>Hungarian/Hungarian/Polish/Czech</td><td>SPM- 197EE ONLY used<br>* SPM-197ER : English/Russian/<br>Bulgarian<br>*SPM-197EG: English/Greek/<br>Yugosiavian</td></tr>
<tr><td>D4</td><td>Existing sharpness level<br>(when using TDA6108 RGB AMP)</td><td>Sharpness level up<br>(when using TDA6107Q AMP)</td><td>ALL (BASIC : HIGH)</td></tr>
<tr><td>D3</td><td>No Auto Power On</td><td>Auto Power On</td><td>ALL (BASIC : HIGH)</td></tr>
<tr><td>D2</td><td>NTSC : 25KHz (NTSC TABLE)<br>PAL : 50KHz (PAL TABLE)</td><td>NTSC : 25KHz (NTSC TABLE)<br>PAL : 27KHz (PAL TABLE)</td><td>ALL (RF VOL. CURVE)<br>BASIC : LOW<br>(AV VOL. CURVE : PAL CURVE)</td></tr>
<tr><td>D1</td><td colspan="2">NOT USED (FIX : LOW)</td><td rowspan="2">Sound system during the auto search (All should be set for the system which is selected during the Factory Reset.)<br>Note : Available when the sound is B/G ↔ D/K in the Byte 0</td></tr>
<tr><td>D0</td><td>B/G SOUND</td><td>D/K SOUND</td></tr>
</table>

● P-STD Classification (CON./BRI./SHRP.COL.)

| D3 BIT | STANDARD MODE | DYAMIC MODE | MOVIE MODE | MILD MODE | CUSTOM MODE |
|---|---|---|---|---|---|
| 0 | 100/50/50/50 | 100/50/75/50 | 90/50/75/50 | 60/50/75/50 | 100/50/50/50 |
| 1 | 90/50/50/50 | 100/50/50/50 | 75/55/50/50 | 60/50/50/50 | 90/55/25/50 |

● Function Required : 1. PICTURE OFF (after 15 minutes) during no signal 2. AUDIO MUTE (during no signal)
3. No BLUE SCREEN 4. NO TIMER (CLOCK ON/OFF)

## 4-2-4 (C) TTX MICOM (SPM-197EP/EPR/EA) OPTION TABLE (FOR MIDDLE EAST)

<table>
<tr><th>BYTE</th><th>BIT</th><th>LOW (0)</th><th>HIGH (1)</th><th>Application MICOM</th></tr>
<tr><td rowspan="8">B<br>Y<br>T<br>E<br>0</td><td>D7</td><td colspan="2">NOT USED</td><td>ALL (FIX : LOW)</td></tr>
<tr><td>D6</td><td>16:9 not functional during zoom<br>(NORMAL-ZOOM)</td><td>16:9 functional during zoom<br>(NORMAL-ZOOM-16:9)</td><td>EP is an OPTION during A/V<br>(BASIC : LOW)</td></tr>
<tr><td>D5</td><td colspan="2">NOT USED</td><td>ALL (FIX : LOW)</td></tr>
<tr><td>D4</td><td>CH Up/down functional in the A/V mode (SCART Jack)</td><td>CH Up/down not functional in the A/V mode (RCA Jack)</td><td>ALL</td></tr>
<tr><td>D3</td><td>SOUND-I SYSTEM USED</td><td>SOUND-I SYSTEM NOT USED</td><td>ALL</td></tr>
<tr><td>D2<br><br>D1</td><td colspan="2"><table>
<tr><th>D2</th><th>D1</th><th>COLOR SYSTEM</th><th>SOUND SYSTEM</th></tr>
<tr><td>0</td><td>0</td><td>CK : AUTO (No OSD)</td><td>(?)→B/G→D/K →</td></tr>
<tr><td>0</td><td>1</td><td>CW : -. RF : AUTO→PAL →SECAM→NT4.43<br>-. A/V : AUTO→PAL→SECAM →NT4.43 →NT3.58</td><td>(?)→B/G→D/K → I→</td></tr>
<tr><td>1</td><td>0</td><td>CB : -RF : PAL ONLY (No OSD)<br>-A/V : AUTO→PAL →NT4.43→NT3.58</td><td>B/G ONLY ( No OSD)</td></tr>
<tr><td>1</td><td>1</td><td>CS : - RF : AUTO→PAL →SECAM →NT4.43→NT 3.58<br>-A/V : AUTO→PAL →SECAM →NT4.43 →NT3.58</td><td>(?)→B/G→D/K → I→<br>NT → M →</td></tr>
</table></td><td></td></tr>
<tr><td>D0</td><td>TDA8374A</td><td>TDA8842</td><td>EP VERSION : TDA8374A ONLY</td></tr>
<tr><td rowspan="8">B<br>Y<br>T<br>E<br>1</td><td>D7<br>D6<br>D5</td><td colspan="2">NOT USED</td><td>ALL (FIX : LOW)</td></tr>
<tr><td>D4</td><td>Existing Sharpness level (when using the TDA6108 RGB AMP)</td><td>Sharpness level up (when using the TDA6107Q RGB AMP)</td><td>ALL (BASIC : HIGH)</td></tr>
<tr><td>D3</td><td>No Auto Power On</td><td>Auto Power On</td><td>ALL (BASIC : HIGH)</td></tr>
<tr><td>D2</td><td>NTSC : 25KHz (NTSC TABLE)<br>PAL : 50KHz (PAL TABLE</td><td>NTSC : 25KHz (NTSC TABLE)<br>PAL : 27KHz (PAL TABLE</td><td>ALL (RF VOL. CURVE)<br>BASIC : LOW<br>(AV VOL. CURVE : PAL CURVE)</td></tr>
<tr><td>D1<br><br>D0</td><td colspan="2"><table>
<tr><th>D1</th><th>D0</th><th>SYSTEM</th></tr>
<tr><td>0</td><td>0</td><td>B/G</td></tr>
<tr><td>0</td><td>1</td><td>D/K</td></tr>
<tr><td>1</td><td>0</td><td>I</td></tr>
<tr><td>1</td><td>1</td><td>?(B/G & D/K OR M) /EP VER. : M</td></tr>
</table></td><td>Sound system during the auto search (All should be set for the system which is selected during the Factory Reset.)<br>Note : A single sound in the Byte 0 is unavailable</td></tr>
</table>

● OSD Language by MiCOM
1. Persian (for Iran) : English/Persian (Iranian)
2. Arab (Middle East, Africa) : English/French/Arabian

● Function Required : 1. PICTURE OFF (after 15 minutes) during no signal 2. AUDIO MUTE (during no signal)
3. No BLUE SCREEN 4. No TIMER (CLOCK ON/OFF)

## 4-2-4 (D) TTX MICOM (SPM-193EE/EER) OPTION TABLE (FOR EUROPE)

<table>
<tr><th>BYTE</th><th>BIT</th><th>LOW (0)</th><th>HIGH (1)</th><th>REMARK</th></tr>
<tr><td rowspan="8">BYTE0</td><td>D7</td><td>3 BAND</td><td>UHF ONLY</td><td>SZM-193EE : H NOT functional<br>SZM-193EER :</td></tr>
<tr><td>D6</td><td>16:9 not functional during zoom in the A/V mode (NORMAL-ZOOM)</td><td>16:9 functional during zoom in the A/V mode (NORMAL-ZOOM-16:9)</td><td>Basic Specification : LOW</td></tr>
<tr><td>D5</td><td>LED RED AT STAND-BY</td><td>LED GREEN AT STAND-BY</td><td>POLAND (J900 DELETE AT H)</td></tr>
<tr><td>D4</td><td>CH Up/down functional in the A/V mode (SCART Jack)</td><td>CH Up/down not functional in the A/V mode (RCA Jack)</td><td>BASIC : LOW</td></tr>
<tr><td>D3</td><td>P-STD MAX</td><td>P-STD NORMAL</td><td>ALL (BASIC : HIGH)</td></tr>
<tr><td>D2<br>D1</td><td colspan="2"><table><tr><th>D2</th><th>D1</th><th>SOUND SYSTEM</th><th>COLOR SYSTEM</th></tr><tr><td>0</td><td>0</td><td>B/G ↔ D/K : CK MODEL</td><td rowspan="4">AUTO<br>(NO OSD)</td></tr><tr><td>0</td><td>1</td><td>I ONLY (NO OSD) : CI, CII MODEL</td></tr><tr><td>1</td><td>0</td><td>B/G ONLY (NO OSD) : CB, CX MODEL</td></tr><tr><td>1</td><td>1</td><td>NOT USED</td></tr></table></td><td>SOUND SYSTEM OPTION</td></tr>
<tr><td>D0</td><td>TDA8374A</td><td>TDA8842</td><td>IC201 (ONE-CHIP) OPTION</td></tr>
<tr><td rowspan="8">BYTE1</td><td>D7<br>D6</td><td colspan="2"><table><tr><th>D7</th><th>D6</th><th>OSD Language</th></tr><tr><td>0</td><td>0</td><td rowspan="2">English/German/French/Dutch/<br>Italian/Spanish/Swedish</td></tr><tr><td>0</td><td>1</td></tr><tr><td>1</td><td>0</td><td>English/Romanian/Hungarian/<br>Croatian/Polish/Czech/Russian</td></tr><tr><td>1</td><td>1</td><td>English/Bulgarian/Greek/Yugo</td></tr></table></td><td>Language Option</td></tr>
<tr><td>D5</td><td>AFT ON (always)</td><td>AFT OFF (after fine tuning)</td><td>BASIC : LOW</td></tr>
<tr><td>D4</td><td>Existing Sharpness level<br>(when using TDA6108 RGB AMP)</td><td>Sharpness level up<br>(when using TDA6107Q AMP)</td><td>BASIC : HIGH</td></tr>
<tr><td>D3</td><td>No Auto Power On</td><td>Auto Power On</td><td>BASIC: HIGH</td></tr>
<tr><td>D2</td><td>NTSC : 25KHz (NTSC TABLE)<br>PAL : 50KHz (PAL TABLE)</td><td>NTSC : 25KHz (NTSC TABLE)<br>PAL : 27KHz (NTSC TABLE)</td><td>RF VOL. : CURVE, BASIC : LOW<br>(AV VOL. CURVE:PAL CURVE)</td></tr>
<tr><td>D1</td><td colspan="2">NOT USED (FIX : LOW)</td><td rowspan="2">Sound system during the Auto search (All should be set for the system which is selected during the Factory Reset.)<br>Note: Only available during the specification of CK model in the Byte 0</td></tr>
<tr><td>D0</td><td>SOUND B/G</td><td>SOUND D/K</td></tr>
</table>

● P-STD Classification (CON./BRI./SHRP./COL.)

| D3 BIT | STANDARD MODE | DYAMIC MODE | MOVIE MODE | MILD MODE | CUSTOM MODE |
|---|---|---|---|---|---|
| 0 | 100/50/50/50 | 100/50/75/50 | 90/50/75/50 | 60/50/75/50 | 100/50/50/50 |
| 1 | 90/50/50/50 | 100/50/50/50 | 75/55/50/50 | 60/50/50/50 | 90/55/25/50 |

● Function Required : 1. PICTURE OFF (after 15 minutes) during no signal 2. AUDIO MUTE (during no signal)
3. No BLUE SCREEN during no RF signal (Blue screen during A/V 4. NO TIMER

## 4-2-4 (E) TTX MICOM (SZM-193EA/EAR/EV) OPTION TABLE

<table>
<tr><th>BYTE</th><th>BIT</th><th>LOW (0)</th><th>HIGH (1)</th><th>Application MICOM</th></tr>
<tr><td rowspan="8">BYTE0</td><td>D7</td><td>LINE STEREO OFF</td><td>LINE STEREO ON</td><td>ALL</td></tr>
<tr><td>D6</td><td>16:9 not function during zoom in the A/V mode (Normal-ZOOM)</td><td>16:9 functional during zoom in the A/V mode (NORMAL-ZOOM-16:9)</td><td>BASIC : LOW</td></tr>
<tr><td>D5</td><td>CHILD LOCK OFF</td><td>CHILD LOCK ON</td><td>ALL (No SZM193EA)</td></tr>
<tr><td>D4</td><td>CH Up/down functional in the A/V mode (SCART Jack)</td><td>CH Up/down not functional in the A/V mode (RCA Jack)</td><td>ALL</td></tr>
<tr><td>D3</td><td>SOUND-I SYSTEM USED</td><td>SOUND-I SYSTEM NOT USED</td><td>ALL</td></tr>
<tr><td>D2<br>D1</td><td colspan="2"><table>
<tr><th>D2</th><th>D1</th><th>COLOR SYSTEM</th><th>SOUND SYSTEM</th></tr>
<tr><td>0</td><td>0</td><td>CK : AUTO (No OSD)</td><td>B/G→D/K</td></tr>
<tr><td>0</td><td>1</td><td>CW : -. RF : AUTO→PAL →SECAM→NT4.43<br>-. A/V : AUTO→PAL→SECAM →NT4.43 →NT3.58</td><td>B/G→D/K → I</td></tr>
<tr><td>1</td><td>0</td><td>CB : -RF : PAL ONLY<br>-A/V : AUTO→PAL →NT4.43→NT3.58</td><td>B/G ONLY ( No OSD)</td></tr>
<tr><td>1</td><td>1</td><td>CS : - RF : AUTO→PAL →SECAM →NT4.43→NT 3.58<br>-A/V : AUTO→PAL →SECAM →NT4.43 →NT3.58</td><td>B/G→D/K → I→<br>NT → M →</td></tr>
</table></td><td></td></tr>
<tr><td>D0</td><td colspan="2">TDA8374A</td><td>TDA8842</td><td>ALL (No SZM193EA)</td></tr>
<tr><td rowspan="8">BYTE1</td><td>D7<br>D6</td><td colspan="3"><table>
<tr><th>D7</th><th>D6</th><th>Middle East/Africa Version</th><th>Asia Version (SZM193EV)</th></tr>
<tr><td>0</td><td>0</td><td>English ONLY</td><td>English only</td></tr>
<tr><td>0</td><td>1</td><td>English/Arabian</td><td>English/Indonesian/Malay/Thai/Vietnamese</td></tr>
<tr><td>1</td><td>0</td><td>English/Arabian/French</td><td>English/Vietnamese/Indonesian</td></tr>
<tr><td>1</td><td>1</td><td>English ONLY</td><td>English/Thai/Malay</td></tr>
</table></td><td></td></tr>
<tr><td>D5</td><td colspan="2">AFT ON (always)</td><td>AFT OFF after fine tuning (for India)</td><td>ALL (No SZM-193EA)</td></tr>
<tr><td>D4</td><td colspan="2">Existing Sharpness level<br>(when using TDA6108 RGB AMP)</td><td>Sharpness level up<br>(when using TDA6107Q RGB AMP)</td><td>ALL (BASIC : HIGH)</td></tr>
<tr><td>D3</td><td colspan="2">No Auto Power On</td><td>Auto Power On</td><td>ALL (BASIC : HIGH)</td></tr>
<tr><td>D2</td><td colspan="2">NTSC : 25KHz(NTSC TABLE)<br>PAL : 50 KHz (PAL TABLE)</td><td>NTSC : 25KHz (NTSC TABLE)<br>PAL : 27KHz (NTSC TABLE)</td><td>ALL (RF VOL.: HIGH)<br>BASIC : LOW<br>(AV VOL. CURVE : PAL CURVE)</td></tr>
<tr><td>D1<br>D0</td><td colspan="3"><table>
<tr><th>D1</th><th>D0</th><th>SYSTEM</th></tr>
<tr><td>0</td><td>0</td><td>B/G</td></tr>
<tr><td>0</td><td>1</td><td>D/K</td></tr>
<tr><td>1</td><td>0</td><td>I</td></tr>
<tr><td>1</td><td>1</td><td>NT-M</td></tr>
</table></td><td>Initial sound system during the auto search (All should be for the system which is selected during the Factory Reset.)<br>Note : Unavailable during the CB model in the byte 0</td></tr>
</table>

● Function Required : 1. PICTURE OFF (after 15 minutes) during no signal 2. AUDIO MUTE (during no signal)
3. No BLUE SCREEN 4. TIMER (CLOCK ON/OFF)

## 4-2-4 (F) TTX MICOM (SZM-191ER) OPTION TABLE (FOR RUSSIA, OCEANIA)

<table>
<tr><th>BYTE</th><th>BIT</th><th>LOW (0)</th><th>HIGH (1)</th><th>Application MICOM</th></tr>
<tr><td rowspan="8">BYTE0</td><td>D7</td><td colspan="2">NOT USED</td><td>FIX : LOW</td></tr>
<tr><td>D6</td><td>16:9 not functional during zoom in the A/V mode (NORMAL-ZOOM)</td><td>16:9 functional during zoom in the A/V mode (NORMAL-ZOOM-16:9)</td><td>BASIC : LOW</td></tr>
<tr><td>D5</td><td colspan="2">NOT USED</td><td>FIX : LOW</td></tr>
<tr><td>D4</td><td>CH Up/down functional in the A/V mode (SCART Jack)</td><td>CH Up/down not functional in the A/V mode (RCA Jack)</td><td></td></tr>
<tr><td>D3</td><td>SOUND-I SYSTEM USED</td><td>SOUND-I SYSTEM NOT USED</td><td>BASIC : LOW</td></tr>
<tr><td>D2<br>D1</td><td colspan="2"><table>
<tr><th>D2</th><th>D1</th><th>COLOR SYSTEM</th><th>SOUND SYSTEM</th></tr>
<tr><td>0</td><td>0</td><td>CK : AUTO (No OSD)</td><td>B/G→D/K</td></tr>
<tr><td>0</td><td>1</td><td>CW : -. RF : AUTO→PAL →SECAM→NT4.43<br>-. A/V : AUTO→PAL→SECAM →NT4.43 →NT3.58</td><td>B/G→D/K → I</td></tr>
<tr><td>1</td><td>0</td><td>CB : -RF : PAL ONLY (No OSD)<br>-A/V : AUTO→PAL →NT4.43→NT3.58</td><td>B/G OSD</td></tr>
<tr><td>1</td><td>1</td><td>CS : - RF : AUTO→PAL →SECAM →NT4.43→NT 3.58<br>-A/V : AUTO→PAL →SECAM →NT4.43 →NT3.58</td><td>B/G→D/K → I→<br>NT → M</td></tr>
</table></td><td></td></tr>
<tr><td>D0</td><td>TDA8374A</td><td>TDA8842</td><td>IC201(ONE-CHIP) OPTION</td></tr>
<tr><td rowspan="8">BYTE1</td><td>D7</td><td colspan="2">NOT USED</td><td>FIX : LOW</td></tr>
<tr><td>D6</td><td>English ONLY</td><td>English/Russian</td><td>Language option</td></tr>
<tr><td>D5</td><td>AFT ON (always)</td><td>AFT OFF (after fine tuning)</td><td>BASIC : LOW</td></tr>
<tr><td>D4</td><td>Existing Sharpness level (when using TDA6108 RGB AMP)</td><td>Sharpness level up (when using the TDA6107Q RGB AMP)</td><td>BASIC : HIGH</td></tr>
<tr><td>D3</td><td>No Auto Power On</td><td>Auto Power On</td><td>BASIC : HIGH</td></tr>
<tr><td>D2</td><td>NTSC : 25KHz (NTSC TABLE)<br>PAL : 50KHz (PAL TABLE)</td><td>NTSC : 25KHz (NTSC TABLE)<br>PAL : 27KHz (PAL TABLE)</td><td>ALL (RF VOL. CURVE) , BASIC :LOW<br>(AV VOL. CURVE: PAL CURVE)</td></tr>
<tr><td>D1<br>D0</td><td colspan="2"><table>
<tr><th>D1</th><th>D0</th><th>System</th></tr>
<tr><td>0</td><td>0</td><td>DIG</td></tr>
<tr><td>0</td><td>1</td><td>D/K</td></tr>
<tr><td>1</td><td>0</td><td>I</td></tr>
<tr><td>1</td><td>1</td><td>NT-M</td></tr>
</table></td><td>Initial sound system during the auto search (All should be set for the system which is selected during the Factory Reset.)<br>Note : Unavailable during the CB model in the Byte 0</td></tr>
</table>

● Function Required : 1. PICTURE OFF (after 15 minutes) during no signal 2. AUDIO MUTE during no signal
3. BLUE SCREEN ON/OFF 4. No TIMER CLOCK

● The SZM191ER is to be diverted to Australia/New Zealand because of the non-functionality of RGB (of pin 21).
(OPTION BYTE : 55/1C)→ When using TDA8842 N1, the BLOOMING check is required.

## 4-2-4 (G) TTX MICOM (SZM-193EVR) OPTION TABLE (FOR ASIA)

<table>
<tr><th>BYTE</th><th>BIT</th><th>LOW (0)</th><th>HIGH (1)</th><th>Application MICOM</th></tr>
<tr><td rowspan="8">BYTE0</td><td>D7</td><td>LINE STEREO OFF</td><td>LINE STEREO ON</td><td></td></tr>
<tr><td>D6</td><td>16:9 not function during zoom in the A/V mode (Normal-ZOOM)</td><td>16:9 functional during zoom in the A/V mode (NORMAL-ZOOM-16:9)</td><td>BASIC : LOW</td></tr>
<tr><td>D5</td><td>CHILD LOCK OFF</td><td>CHILD LOCK ON</td><td></td></tr>
<tr><td>D4</td><td>CH Up/down functional in the A/V mode (SCART Jack)</td><td>CH Up/down not functional in the A/V mode (RCA Jack)</td><td>BASIC : HIGH</td></tr>
<tr><td>D3</td><td>SOUND-I SYSTEM USED</td><td>SOUND-I SYSTEM NOT USED</td><td></td></tr>
<tr><td>D2<br>D1</td><td colspan="2"><table>
<tr><th>D2</th><th>D1</th><th>COLOR SYSTEM</th><th>SOUND SYSTEM</th></tr>
<tr><td>0</td><td>0</td><td>CK : AUTO (No OSD)</td><td>B/G→D/K</td></tr>
<tr><td>0</td><td>1</td><td>CW : -. RF : AUTO→PAL →SECAM→NT4.43<br>-. A/V : AUTO→PAL→SECAM →NT4.43 →NT3.58</td><td>B/G→D/K → I</td></tr>
<tr><td>1</td><td>0</td><td>CB : -RF : PAL ONLY<br>-A/V : AUTO→PAL →NT4.43→NT3.58</td><td>B/G ONLY ( No OSD)</td></tr>
<tr><td>1</td><td>1</td><td>CS : - RF : AUTO→PAL →SECAM →NT4.43→NT 3.58<br>-A/V : AUTO→PAL →SECAM →NT4.43 →NT3.58</td><td>B/G→D/K → I→<br>NT → M →</td></tr>
</table></td><td></td></tr>
<tr><td>D0</td><td colspan="2">TDA8374A</td><td>TDA8842</td><td>IC201 (ONE-CHIP) OPTION</td></tr>
<tr><td rowspan="8">BYTE1</td><td>D7<br>D6</td><td colspan="2"><table>
<tr><th>D7</th><th>D6</th><th>OSD Language</th></tr>
<tr><td>0</td><td>0</td><td>English ONLY</td></tr>
<tr><td>0</td><td>1</td><td>English/Indonesian/Malay/Thai/Vietnamese</td></tr>
<tr><td>1</td><td>0</td><td>English/Vietnamese/Indonesian</td></tr>
<tr><td>1</td><td>1</td><td>English/Thai/Malay</td></tr>
</table></td><td>Language option</td></tr>
<tr><td>D5</td><td>AFT ON (always)</td><td>AFT OFF (after fine tuning)</td><td>BASIC : LOW(India : HIGH)</td></tr>
<tr><td>D4</td><td>CLOCK DISPLAY<br>OFF</td><td>CLOCK DISPLAY<br>ON</td><td>BASIC : LOW<br>Indonesia : HIGH</td></tr>
<tr><td>D3</td><td>No Auto Power On</td><td>Auto Power On</td><td>BASIC : HIGH</td></tr>
<tr><td>D2</td><td>NTSC : 25KHz(NTSC TABLE)<br>PAL : 50 KHz (PAL TABLE)</td><td>NTSC : 25KHz (NTSC TABLE)<br>PAL : 27KHz (NTSC TABLE)</td><td>ALL (RF VOL.: HIGH)<br>BASIC : LOW<br>(AV VOL. CURVE : PAL CURVE)</td></tr>
<tr><td>D1<br>D0</td><td colspan="2"><table>
<tr><th>D1</th><th>D0</th><th>SYSTEM</th></tr>
<tr><td>0</td><td>0</td><td>B/G</td></tr>
<tr><td>0</td><td>1</td><td>D/K</td></tr>
<tr><td>1</td><td>0</td><td>I</td></tr>
<tr><td>1</td><td>1</td><td>NT-M</td></tr>
</table></td><td>Initial sound system during the auto search (All should be set for the system which is selected during the Factory Reset.)<br>Note : Unavailable during the CB model in the Byte 0</td></tr>
</table>

● Function Required : 1. PICTURE OFF (after 15 minutes) during no signal 2. AUDIO MUTE during no signal
3. BLUE SCREEN On/off 4. TIMER CLOCK ON/OFF

## 4-2-4 (H) NON TTX MICOM (SZM-193EV2) OPTION TABLE (FOR ASIA)

<table>
<tr><th>BYTE</th><th>BIT</th><th>LOW (0)</th><th>HIGH (1)</th><th>Application MICOM</th></tr>
<tr><td rowspan="8">BYTE 0</td><td>D7</td><td>LINE STEREO OFF</td><td>LINE STEREO ON</td><td></td></tr>
<tr><td>D6</td><td>16:9 not function during zoom<br>(Normal-ZOOM)</td><td>16:9 functional during zoom<br>(NORMAL-ZOOM-16:9)</td><td>BASIC : LOW</td></tr>
<tr><td>D5</td><td>CHILD LOCK OFF</td><td>CHILD LOCK ON</td><td></td></tr>
<tr><td>D4</td><td>CH Up/down functional in the A/V mode (SCART Jack)</td><td>CH Up/down not functional in the A/V mode (RCA Jack)</td><td>BASIC : HIGH</td></tr>
<tr><td>D3</td><td>SOUND-I SYSTEM USED</td><td>SOUND-I SYSTEM NOT USED</td><td></td></tr>
<tr><td>D2<br>D1</td><td colspan="2"><table>
<tr><th>D2</th><th>D1</th><th>COLOR SYSTEM</th><th>SOUND SYSTEM</th></tr>
<tr><td>0</td><td>0</td><td>CK : AUTO (No OSD)</td><td>(?)→B/G→D/K →</td></tr>
<tr><td>0</td><td>1</td><td>CW : -. RF : AUTO→PAL →SECAM→NT4.43<br>-. A/V : AUTO→PAL→SECAM →NT4.43 →NT3.58</td><td>(?)→B/G→D/K → I→</td></tr>
<tr><td>1</td><td>0</td><td>CB : -RF : PAL ONLY (No OSD)<br>-A/V : AUTO→PAL →NT4.43→NT3.58</td><td>B/G ONLY ( No OSD)</td></tr>
<tr><td>1</td><td>1</td><td>CS : - RF : AUTO→PAL →SECAM →NT4.43→NT 3.58<br>-A/V : AUTO→PAL →SECAM →NT4.43 →NT3.58</td><td>(?)→B/G→D/K → I→<br>NT → M →</td></tr>
</table></td><td></td></tr>
<tr><td>D0</td><td colspan="2">TDA8374A</td><td>TDA8842</td><td>IC201 (ONE-CHIP) OPTION</td></tr>
<tr><td rowspan="8">BYTE 1</td><td>D7<br>D6</td><td colspan="2"><table>
<tr><th>D7</th><th>D6</th><th>OSD Language</th></tr>
<tr><td>0</td><td>0</td><td>English ONLY</td></tr>
<tr><td>0</td><td>1</td><td>English/Indonesian/Malay/Thai/Vietnamese</td></tr>
<tr><td>1</td><td>0</td><td>English/Vietnamese/Indonesian</td></tr>
<tr><td>1</td><td>1</td><td>English/Thai/Malay</td></tr>
</table></td><td>Language option</td></tr>
<tr><td>D5</td><td>AFT ON (always)</td><td>AFT OFF (after fine tuning)</td><td>BASIC : LOW(India : HIGH)</td></tr>
<tr><td>D4</td><td>CLOCK DISPLAY<br>OFF</td><td>CLOCK DISPLAY<br>ON</td><td>BASIC : LOW<br>Indonesia : HIGH</td></tr>
<tr><td>D3</td><td>No Auto Power On</td><td>Auto Power On</td><td>BASIC : HIGH</td></tr>
<tr><td>D2</td><td>NTSC : 25KHz(NTSC TABLE)<br>PAL : 50 KHz (PAL TABLE)</td><td>NTSC : 25KHz (NTSC TABLE)<br>PAL : 27KHz (NTSC TABLE)</td><td>RF VOL.CURVE<br>BASIC : LOW<br>(AV VOL. CURVE : PAL CURVE)</td></tr>
<tr><td>D1<br>D0</td><td colspan="2"><table>
<tr><th>D1</th><th>D0</th><th>SYSTEM</th></tr>
<tr><td>0</td><td>0</td><td>B/G</td></tr>
<tr><td>0</td><td>1</td><td>D/K</td></tr>
<tr><td>1</td><td>0</td><td>I</td></tr>
<tr><td>1</td><td>1</td><td>?) B/G & D/K OR M</td></tr>
</table></td><td>Initial sound system during the auto search (All should be set for the system which is selected during the Factory Reset.)<br>Note: Unavailable during the CB model in the Byte 0</td></tr>
</table>

● Function Required : 1. PICTURE OFF (after 15 minutes) during no signal 2. AUDIO MUTE during no signal
3. BLUE SCREEN On/off 4. TIMER Clock On/Off

## 4-2-4 (I) TTX MICOM (SPM-193EA2) OPTION TABLE (FOR MIDDLE EAST ASIA/AFRICA)

<table>
<tr><th>BYTE</th><th>BIT</th><th>LOW (0)</th><th>HIGH (1)</th><th>Application MICOM</th></tr>
<tr><td rowspan="8">BYTE 0</td><td>D7</td><td colspan="2">LINE STEREO OFF</td><td>LINE STEREO ON</td><td></td></tr>
<tr><td>D6</td><td colspan="2">16:9 not functional during zoom in the A/V mode (NORMAL-ZOOM)</td><td>16:9 functional during zoom in the A/V mode (NORMAL-ZOOM-16:9)</td><td>BASIC : LOW</td></tr>
<tr><td>D5</td><td colspan="2">CHILD LOCK OFF</td><td>CHILD LOCK ON</td><td></td></tr>
<tr><td>D4</td><td colspan="2">CH Up/down functional in the A/V mode (SCART Jack)</td><td>CH Up/down not functional in the A/V mode (RCA Jack)</td><td></td></tr>
<tr><td>D3</td><td colspan="2">SOUND-I SYSTEM USED</td><td>SOUND-I SYSTEM NOT USED</td><td></td></tr>
<tr><td>D2<br>D1</td><td colspan="3"><table>
<tr><th>D2</th><th>D1</th><th>COLOR SYSTEM</th><th>SOUND SYSTEM</th></tr>
<tr><td>0</td><td>0</td><td>CK : AUTO (No OSD)</td><td>(?)→B/G→D/K →</td></tr>
<tr><td>0</td><td>1</td><td>CW : -. RF : AUTO→PAL →SECAM→NT4.43<br>-. A/V : AUTO→PAL→SECAM →NT4.43 →NT3.58</td><td>(?)→B/G→D/K → I→</td></tr>
<tr><td>1</td><td>0</td><td>CB : -RF : PAL ONLY (No OSD)<br>-A/V : AUTO→PAL →NT4.43→NT3.58</td><td>B/G ONLY ( No OSD)</td></tr>
<tr><td>1</td><td>1</td><td>CS : - RF : AUTO→PAL →SECAM →NT4.43→NT 3.58<br>-A/V : AUTO→PAL →SECAM →NT4.43 →NT3.58</td><td>(?)→B/G→D/K → I→<br>NT → M →</td></tr>
</table></td><td></td></tr>
<tr><td>D0</td><td colspan="2">TDA8374A</td><td>TDA8842</td><td>IC201 (ONE-CHIP) OPTION</td></tr>
<tr><td rowspan="8">BYTE 1</td><td>D7<br>D6</td><td colspan="2">NOT USED</td><td>FIX : LOW</td></tr>
<tr><td>D5</td><td colspan="2">AFT ON (always)</td><td>AFT OFF (after fine tuning)</td><td>BASIC : LOW</td></tr>
<tr><td>D4</td><td colspan="2">Existing Sharpness level (when using the TDA6108 RGB AMP)</td><td>Sharpness level up (when using the TDA6107Q RGB AMP)</td><td>BASIC : HIGH</td></tr>
<tr><td>D3</td><td colspan="2">No Auto Power On</td><td>Auto Power On</td><td>BASIC : HIGH</td></tr>
<tr><td>D2</td><td colspan="2">NTSC : 25KHz (NTSC TABLE)<br>PAL : 50KHz (PAL TABLE)</td><td>NTSC : 25KHz (NTSC TABLE)<br>PAL : 27KHz (PAL TABLE)</td><td>ALL (RF VOL. CURVE)<br>BASIC : LOW<br>(AV VOL. CURVE : PAL CURVE)</td></tr>
<tr><td>D1<br>D0</td><td colspan="3"><table>
<tr><th>D1</th><th>D0</th><th>SYSTEM</th></tr>
<tr><td>0</td><td>0</td><td>B/G</td></tr>
<tr><td>0</td><td>1</td><td>D/K</td></tr>
<tr><td>1</td><td>0</td><td>I</td></tr>
<tr><td>1</td><td>1</td><td>? B/G & D/K OR M</td></tr>
</table></td><td>Initial sound system during the auto search (All should be set for the system which is selected during the Factory Reset.)<br>Note : Unavailable during the CB model in the Byte 0</td></tr>
</table>

● Function Required : 1. PICTURE OFF (after 15 minutes) during no signal 2. AUDIO MUTE (during no signal)
3. BLUE SCREEN On/Off 4. No Timer Clock On/Off

## 4-2-4 (J) TTX MICOM (SZM-193EC) OPTION TABLE (FOR CHINA)

<table>
<tr><th>BYTE</th><th>BIT</th><th>LOW (0)</th><th>HIGH (1)</th><th>Remark</th></tr>
<tr><td rowspan="8">BYTE0</td><td>D7</td><td>LINE STEREO OFF</td><td>LINE STEREO ON</td><td>BASIC : LOW</td></tr>
<tr><td>D6</td><td>16:9 not functional during zoom in the A/V mode (NORMAL-ZOOM)</td><td>16:9 functional during zoom in the A/V mode (NORMAL-ZOOM-16:9)</td><td>BASIC : LOW</td></tr>
<tr><td>D5</td><td>CHILD LOCK OFF</td><td>CHILD LOCK ON</td><td></td></tr>
<tr><td>D4</td><td>CH Up/down functional in the A/V mode (SCART Jack)</td><td>CH Up/down not functional in the A/V mode (RCA Jack)</td><td>BASIC : LOW</td></tr>
<tr><td>D3</td><td>SOUND-I SYSTEM USED</td><td>SOUND-I SYSTEM NOT USED</td><td>BASIC : HIGH</td></tr>
<tr><td>D2<br>D1</td><td colspan="2"><table>
<tr><th>D2</th><th>D1</th><th>COLOR SYSTEM</th><th>SOUND SYSTEM</th></tr>
<tr><td>0</td><td>0</td><td>CK : AUTO (No OSD)</td><td>B/G→D/K</td></tr>
<tr><td>0</td><td>1</td><td>CW : -. RF : AUTO→PAL →SECAM→NT4.43<br>-. A/V : AUTO→PAL→SECAM →NT4.43 →NT3.58</td><td>B/G→D/K → I</td></tr>
<tr><td>1</td><td>0</td><td>CB : -RF : PAL ONLY (No OSD)<br>-A/V : AUTO→PAL →NT4.43→NT3.58</td><td>B/G OSD</td></tr>
<tr><td>1</td><td>1</td><td>CS : - RF : AUTO→PAL →SECAM →NT4.43→NT 3.58<br>-A/V : AUTO→PAL →SECAM →NT4.43 →NT3.58</td><td>B/G→D/K → I→<br>NT → M</td></tr>
</table></td><td></td></tr>
<tr><td>D0</td><td>TDA8374A</td><td>TDA8842</td><td>IC201(ONE-CHIP) OPTION</td></tr>
<tr><td rowspan="8">BYTE1</td><td>D7</td><td colspan="2">NOT USED</td><td>FIX : LOW</td></tr>
<tr><td>D6</td><td>English ONLY</td><td>English/Russian</td><td>Language option</td></tr>
<tr><td>D5</td><td>AFT ON (always)</td><td>AFT OFF (after fine tuning)</td><td>BASIC : LOW</td></tr>
<tr><td>D4</td><td>Existing Sharpness level (when using TDA6108 RGB AMP)</td><td>Sharpness level up (when using the TDA6107Q RGB AMP)</td><td>BASIC : HIGH</td></tr>
<tr><td>D3</td><td>No Auto Power On</td><td>Auto Power On</td><td>BASIC : HIGH</td></tr>
<tr><td>D2</td><td>NTSC : 25KHz (NTSC TABLE)<br>PAL : 50KHz (PAL TABLE)</td><td>NTSC : 25KHz (NTSC TABLE)<br>PAL : 27KHz (PAL TABLE)</td><td>ALL (RF VOL. CURVE) , BASIC:LOW<br>(AV VOL. CURVE: PAL CURVE)</td></tr>
<tr><td>D1<br>D0</td><td colspan="2"><table>
<tr><th>D1</th><th>D0</th><th>System</th></tr>
<tr><td>0</td><td>0</td><td>DIG</td></tr>
<tr><td>0</td><td>1</td><td>D/K</td></tr>
<tr><td>1</td><td>0</td><td>I</td></tr>
<tr><td>1</td><td>1</td><td>NT-M</td></tr>
</table></td><td>Initial sound system during the auto search (All should be set for the system which is selected during the Factory Reset.)<br>Note : Unavailable during the CD model in the Byte 0</td></tr>
</table>

● Function Required : 1. PICTURE OFF (after 15 minutes) during no signal 2. AUDIO MUTE during no signal
3. BLUE SCREEN On/Off 4. TIMER CLOCK On/Off

## 4-2-4 (K) NON TTX MICOM (SZM-191EC) OPTION TABLE (FOR CHINA)

<table>
<tr><th>BYTE</th><th>BIT</th><th>LOW (0)</th><th>HIGH (1)</th><th>Application MICOM</th></tr>
<tr><td rowspan="8">BYTE0</td><td>D7</td><td colspan="2">NOT USED</td><td>FIX : LOW</td></tr>
<tr><td>D6</td><td>16:9 not functional during zoom (NORMAL-ZOOM)</td><td>16:9 functional during zoom (NORMAL-ZOOM-16:9)</td><td>BASIC : LOW</td></tr>
<tr><td>D5</td><td colspan="2">NOT USED</td><td>FIX : LOW</td></tr>
<tr><td>D4</td><td>CH Up/down functional in the A/V mode (SCART Jack)</td><td>CH Up/down not functional in the A/V mode (RCA Jack)</td><td></td></tr>
<tr><td>D3</td><td>SOUND-I SYSTEM USED</td><td>SOUND-I SYSTEM NOT USED</td><td>BASIC : LOW</td></tr>
<tr><td>D2<br>D1</td><td colspan="2"><table>
<tr><th>D2</th><th>D1</th><th>COLOR SYSTEM</th><th>SOUND SYSTEM</th></tr>
<tr><td>0</td><td>0</td><td>CK : AUTO (No OSD)</td><td>B/G→D/K</td></tr>
<tr><td>0</td><td>1</td><td>CW : -. RF : AUTO→PAL →SECAM→NT4.43<br>-. A/V : AUTO→PAL→SECAM →NT4.43 →NT3.58</td><td>B/G→D/K → I</td></tr>
<tr><td>1</td><td>0</td><td>CB : -RF : PAL ONLY (No OSD)<br>-A/V : AUTO→PAL →NT4.43→NT3.58</td><td>B/G OSD</td></tr>
<tr><td>1</td><td>1</td><td>CS : - RF : AUTO→PAL →SECAM →NT4.43→NT 3.58<br>-A/V : AUTO→PAL →SECAM →NT4.43 →NT3.58</td><td>B/G→D/K → I→<br>NT → M</td></tr>
</table></td><td></td></tr>
<tr><td>D0</td><td>TDA8374A</td><td>TDA8842</td><td>IC201(ONE-CHIP) OPTION</td></tr>
<tr><td rowspan="8">BYTE1</td><td>D7</td><td colspan="2">NOT USED</td><td>FIX : LOW</td></tr>
<tr><td>D6</td><td>English ONLY</td><td>English/Russian</td><td>Language option</td></tr>
<tr><td>D5</td><td>AFT ON (always)</td><td>AFT OFF (after fine tuning)</td><td>BASIC : LOW</td></tr>
<tr><td>D4</td><td>Existing Sharpness level (when using TDA6108 RGB AMP)</td><td>Sharpness level up (when using the TDA6107Q RGB AMP)</td><td>BASIC : HIGH</td></tr>
<tr><td>D3</td><td>No Auto Power On</td><td>Auto Power On</td><td>BASIC : HIGH</td></tr>
<tr><td>D2</td><td>NTSC : 25KHz (NTSC TABLE)<br>PAL : 50KHz (PAL TABLE)</td><td>NTSC : 25KHz (NTSC TABLE)<br>PAL : 27KHz (PAL TABLE)</td><td>ALL (RF VOL. CURVE) , BASIC :LOW<br>(AV VOL. CURVE: PAL CURVE)</td></tr>
<tr><td>D1<br>D0</td><td colspan="2"><table>
<tr><th>D1</th><th>D0</th><th>System</th></tr>
<tr><td>0</td><td>0</td><td>DIG</td></tr>
<tr><td>0</td><td>1</td><td>D/K</td></tr>
<tr><td>1</td><td>0</td><td>I</td></tr>
<tr><td>1</td><td>1</td><td>NT-M</td></tr>
</table></td><td>Initial sound system during the auto search (All should be set for the system which is selected during the Factory Reset.)<br>Note : Unavailable during the CD model in the Byte 0</td></tr>
</table>

● Function Required : 1. PICTURE OFF (after 15 minutes) during no signal 2. AUDIO MUTE during no signal
3. BLUE SCREEN ON/OFF 4. No TIMER CLOCK

### 4-2-5 RESET

The Reset Mode is used during factory inspection.
Function Reset:

| | | |
|---|---|---|
| 1. | Channels | Add/Erase |
| 2. | Sort | Non |
| 3. | System | Auto |
| 4. | Timer | off |
| 5. | Blue Screen | off |
| 6. | Child Lock | off |
| 7. | Picture | standard |
| 8. | Volume | 26 |
| 9. | CH. Skip | Erased |

## 4-3 Other Adjustments

### 4-3-1 General

1. Usually, a color TV needs only slight touch-up adjustment upon installation. Check the basic characteristics such as height, horizontal and vertical sync and focus.

2. The picture should have good black and white details. There should be no objectionable color shading; if color shading is present, perform the purity and convergence adjustments described below.

3. Use the specified test equipment or its equivalent.

4. Correct impedance matching is essential.

5. Avoid overload. Excessive signal from a sweep generator might overload the front-end of the TV. When inserting signal markers, do not allow the marker generator to distort test results.

6. Connect the TV only to an AC power source with voltage and frequency as specified on the backcover nameplate.

7. Do not attempt to connect or disconnect any wires while the TV is turned on. Make sure that the power cord is disconnected before replacing any parts.

8. To protect against shock hazard, use an isolation transformer.

### 4-3-2 Automatic Degaussing

A degaussing coil is mounted around the picture tube, so that external degaussing after moving the TV should be unnecessary. But the receiver must be properly degaussed upon installation.

The degaussing coil operates for about 1 second after the power is switched ON. If the set has been moved or turned in a different direction, disconnect its AC power for at least 10 minutes.

If the chassis or parts of the cabinet become magnetized, poor color purity will result. If this happens, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube and the sides and front of the receiver. Slowly withdraw the coil to a distance of about 6 feet before removing power.

### 4-3-3 High Voltage Check

CAUTION: There is no high voltage adjustment on this chassis. The B+ power supply must be set to +125 volts (Full color bar input and normal picture level).

1. Connect a digital voltmeter to the second anode of the picture tube.
2. Turn on the TV. Set the Brightness and Contrast controls to minimum (zero beam current).
3. The high voltage should not exceed 27.5KV.
4. Adjust the Brightness and contrast controls to both extremes. Ensure that the high voltage does not exceed 27.5KV under any conditions.

### 4-3-4 FOCUS Adjustment

1. Input a black and white signal.
2. Adjust the tuning control for the clearest picture.
3. Adjust the FOCUS control for well defined scanning lines in the center area of the screen.

### 4-3-5 Cathode Voltage Adjustment (Screen Adjustment)

1. Connect CRT socket pin GK to an oscilloscope probe.
2. Input a gray scale pattern. (Use a pattern generator, PM5518)
3. Use the P mode key (on the remote control) for the STANDARD picture.
4. Adjust the Screen VR (on the FBT) so that the voltage on the oscilloscope becomes 130±2.5V (See Fig. 4-1).

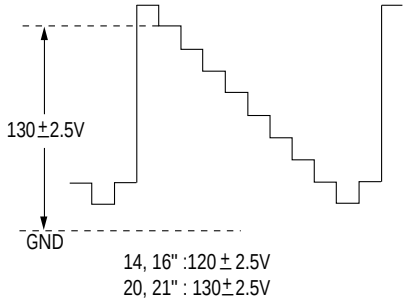



Fig. 4-1

### 4-3-6 Purity Adjustment

1. Warm up the receiver for at least 20 minutes.
2. Plug in the CRT deflection yoke and tighten the clamp screw.
3. Plug the convergence yoke into the CRT and set in as shown in Fig. 4-2.
4. Input a black and white signal.
5. Fully demagnetize the receive by applying an external degaussing coil.
6. Turn the CONTRAST and BRIGHTNESS controls to maximum.
7. Loosen the clamp screw holding the yoke. Slide the yoke backward or forward to provide vertical green belt. (Fig. 4-3).
8. Tighten the convergence yoke.
9. Slowly move the deflection yoke forward, and adjust for the best overall green screen.
10. Temporarily tighten the deflection yoke.
11. Produce blue and red rasters by adjusting the low-light controls. Check for good purity in each field.
12. Tighten the deflection yoke.

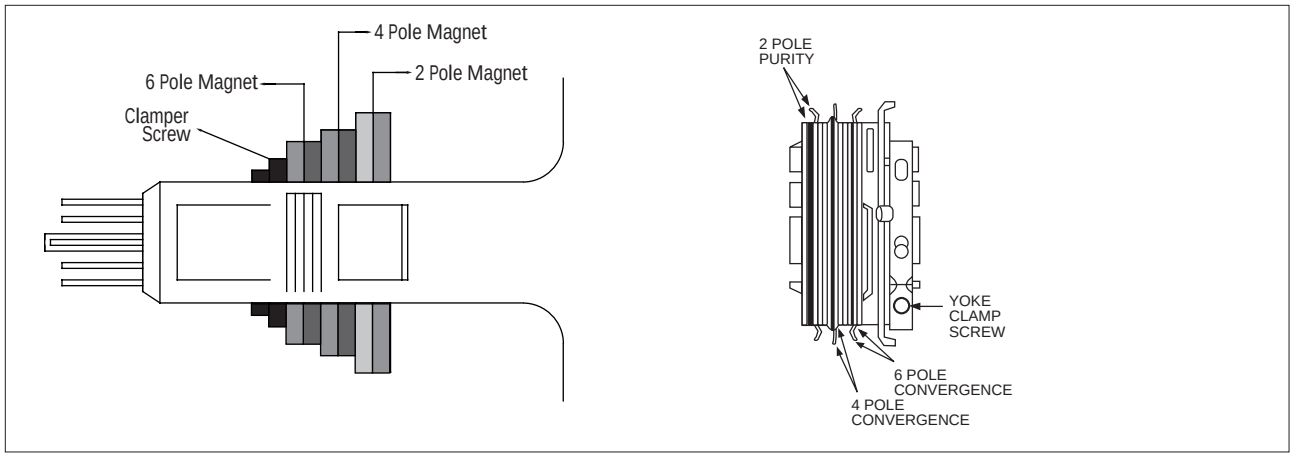



Fig. 4-2 Convergence Magnet Assembly

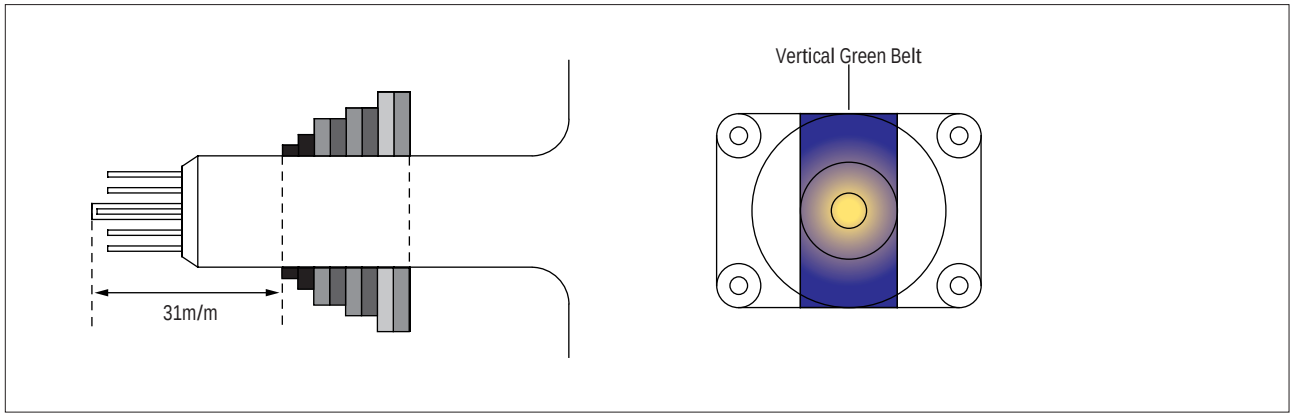



Fig. 4-3 Center Convergence Adjustment

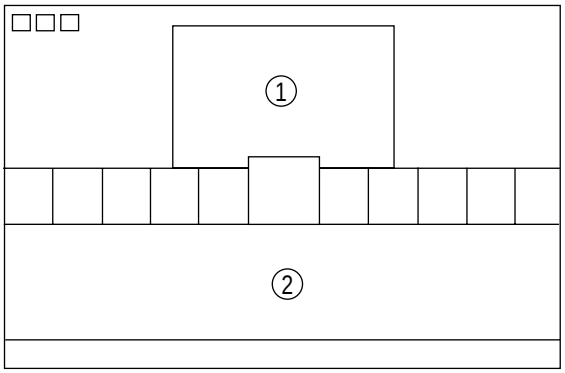



Fig. 4-4

## 4-3-7 White Balance Adjustment

(a) Set up

1. Warm up the TV for at least 30 minutes in the Aging Mode (OSD White). This mode is displayed by entering the following sequence:

   SLEEP →FACTORY → FACTORY

2. Input a Toshiba pattern.

(b) High-Light Adjustment

1. Set SBT to 2.0 fL in the Factory Service Mode with using CA100. See Fig. 4-4 ②.

2. Adjust RG,BG so that the levels are suitable to each local area.

(c) Low-Light Adjustment

1. Set SCT to 50.0 fL in the Factory Service Mode with using CA100. See Fig. 4-4 ①.

## 4-3-8 Center Convergence Adjustment

1. Warm up the receiver for at least 20 minutes.
2. Adjust the two tabs of the 4 pole magnets to change the angle between them. Superimpose the red and blue vertical lines in the center area of the screen.
3. Adjust the Brightness and Contrast controls for a well defined picture.
4. Adjust the two-tab pairs of the 4 pole magnets, and change the angle between them. Superimpose the red and the blue vertical lines in the center area of the screen.
5. Turn the both tabs at the same time, keeping the angle constant, and superimpose the red and blue horizontal line in the center of the screen.
6. Adjust the two-tab pairs of the 6-pole magnets to superimpose the red and blue line onto the green. (Changing the angle affects the vertical lines, and rotating both magnets affects the horizontal lines.)
7. Repeat adjustments 2~6, if necessary.
8. Since the 4-pole magnets and 6-pole magnets interact, the dot movement is complex (Fig. 4-5).

Fig. 4-5 Center Convergence Adjustment

## 4-3-9 VCO Adjustment

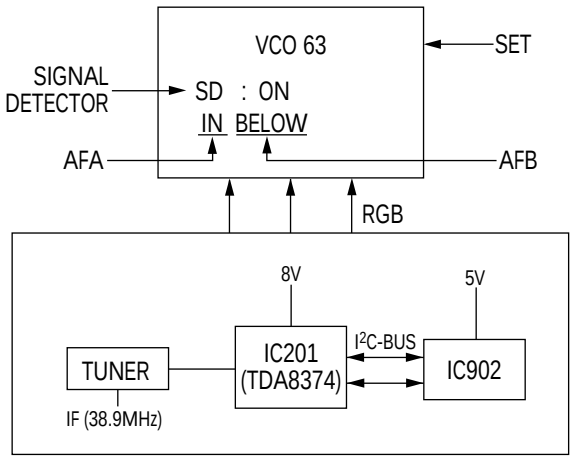



Fig. 4-6

1. Turn on the TV.
2. Set IF port of tuner to 38.9MHz. (Use a pattern generator).
3. Input a color bar pattern (PAL-B/G system).
4. In the Factory Service Mode, select "Adjustment → VCO" and set VCO data to 63.
5. Ensure "SD On" (Signal Input) and "SD Off" (No Signal).
6. Adjust T201 (connected to TDA8374A pins3,4) so that AFA Bit is "INSIDE WINDOW" (the AFB Bit is above~below).

### 4-3-10 RF AGC Adjustment

1. Connect a pattern generator (PM5418) RF signal to tuner RF.
2. Select a gray scale pattern and PAL-B/G system. Set to 479.25MHz.
3. Connect IC201 (ONECHIP) pin 53 to a digital multimeter.
4. Adjust AGC (using volume keys)in the Factory Service Mode. Set IC201 (ONECHIP) pin 54 to 3.7 ± 0.05V (DC).
5. Adjust AGC within 20 seconds after power ON.

### 4-3-11 Sub-Color Adjustment

Set the SCR data steps to 15 in the Factory Mode.

### 4-3-12 Geometry Adjustment

(SC →PVA→PVS→ PSL →PHS)

1. Input a lion head pattern (in the PAL channel).
2. Set the SC (S-Correction) 10 data steps and PSL 20 data steps so that the lion head circle becomes oval.
3. Adjust with PVS (Vertical-shift) : Lion head pattern and mechanical centers must be aligned.
4. Adjust with PVA (Vertical-Amplitude) : Top margin of the picture is 4.

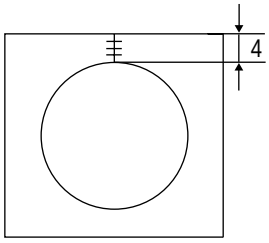



Fig. 4-7

5. Adjust with PSL (Vertical-Slope) : Bottom margin of the picture is 4.

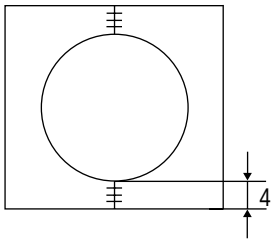



Fig. 4-8

6. Adjust with PHS (Horizontal Shift) : Lion head pattern and CRT centers are aligned.

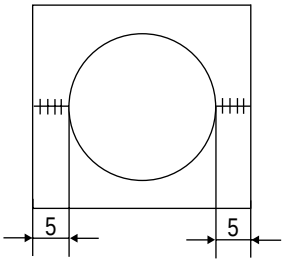


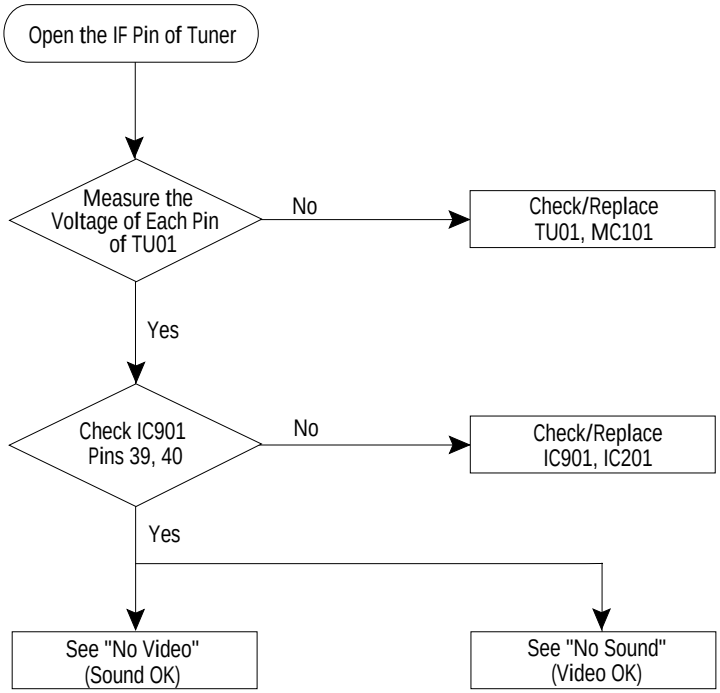

Fig. 4-9

7. Adjust PHS (using the width coil) so that left and right margins of the picture are 5.

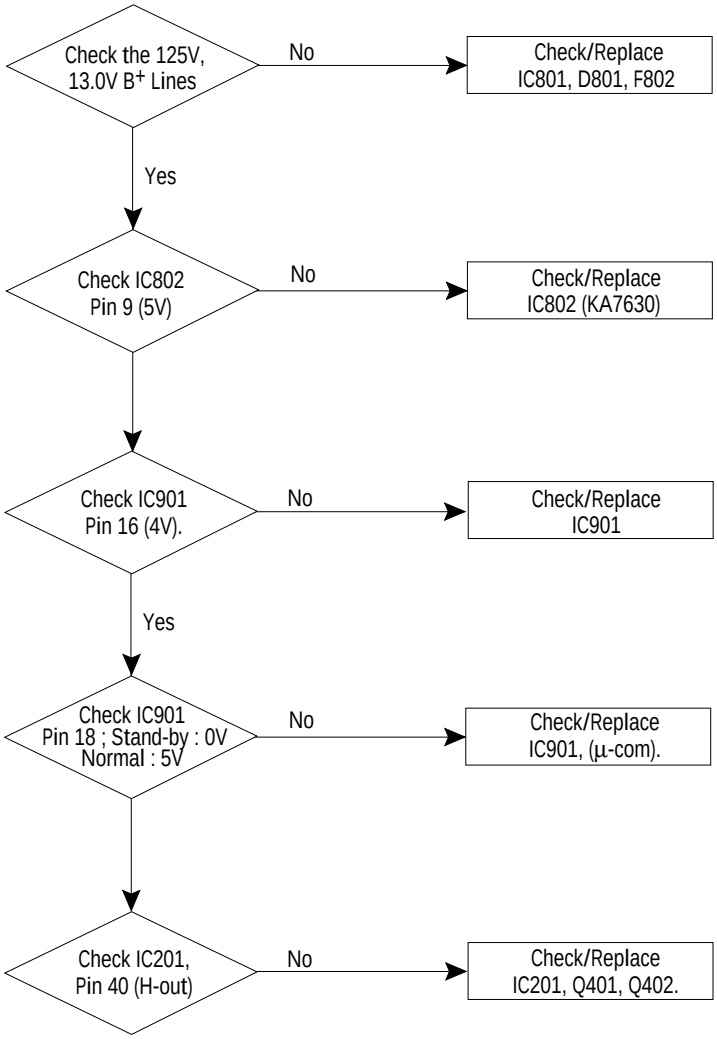
# MEMO

# 5. Troubleshooting

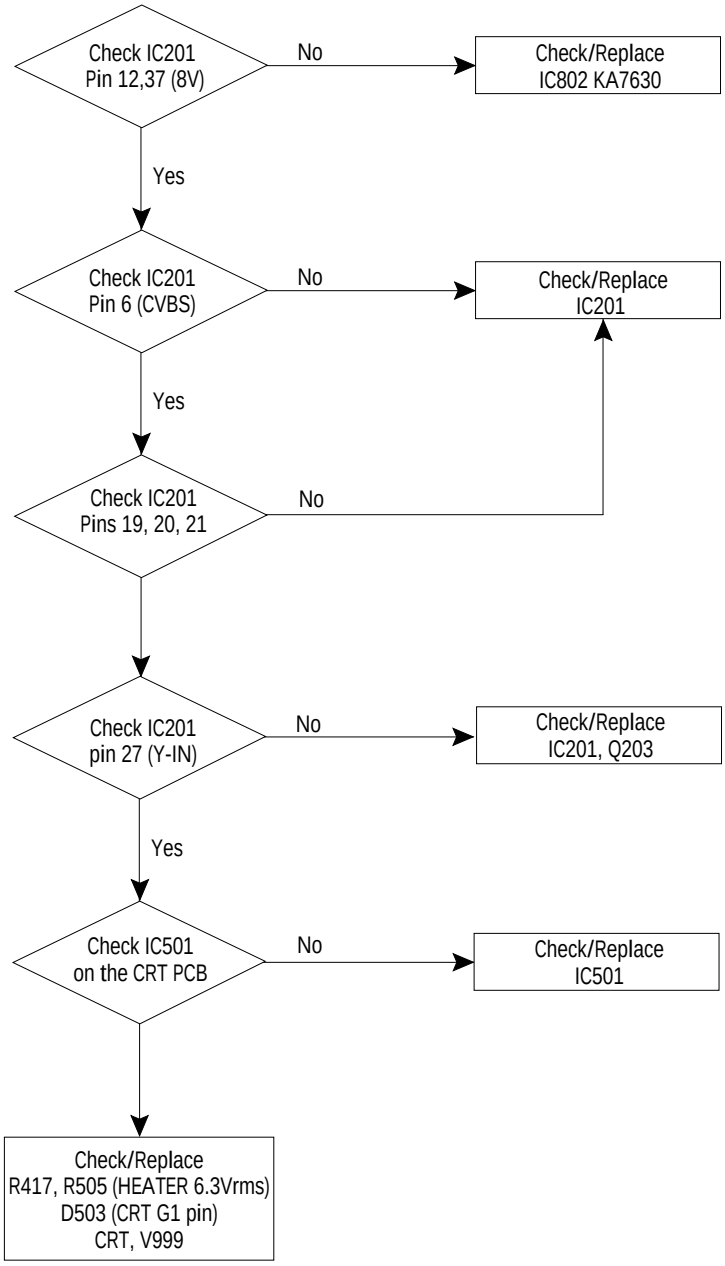
## 5-1 No Video (Raster On, No Sound)



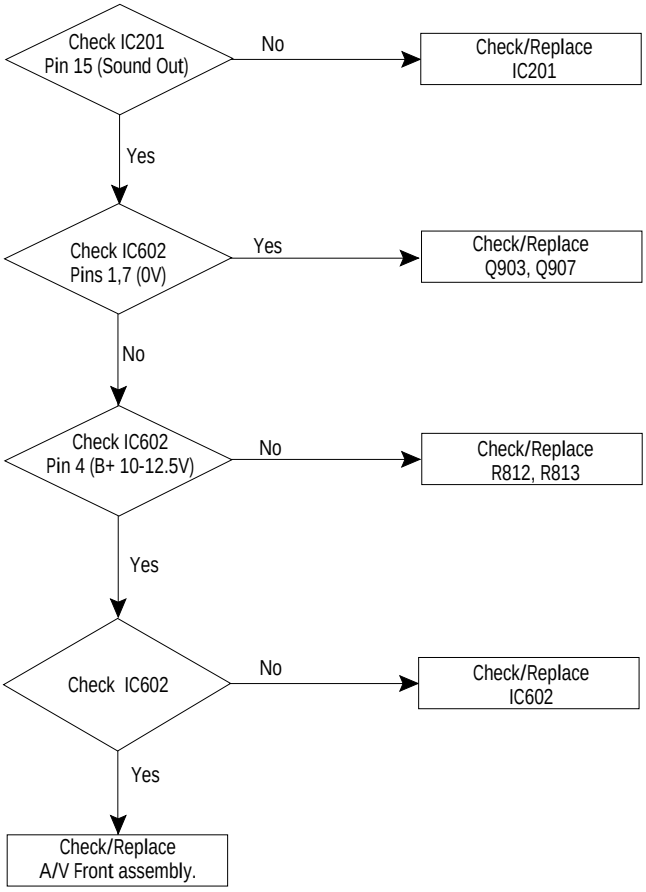
## 5-2 No Power


Check the 125V, 13.0V B+ Lines
No
Check/Replace IC801, D801, F802
Yes
Check IC802 Pin 9 (5V)
No
Check/Replace IC802 (KA7630)
Check IC901 Pin 16 (4V).
No
Check/Replace IC901
Yes
Check IC901 Pin 18 ; Stand-by : 0V Normal : 5V
No
Check/Replace IC901, (μ-com).
Check IC201, Pin 40 (H-out)
No
Check/Replace IC201, Q401, Q402.

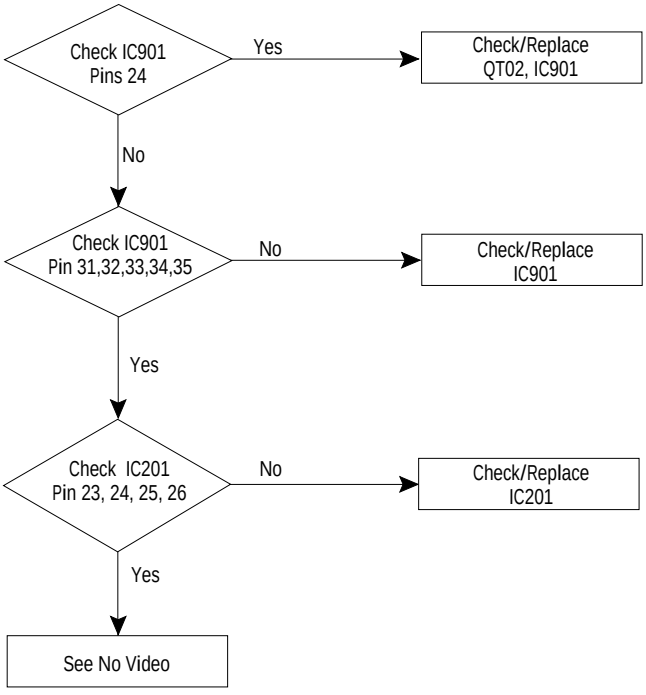
## 5-3 No Video (Sound OK)



## 5-4 No Sound (Video OK)

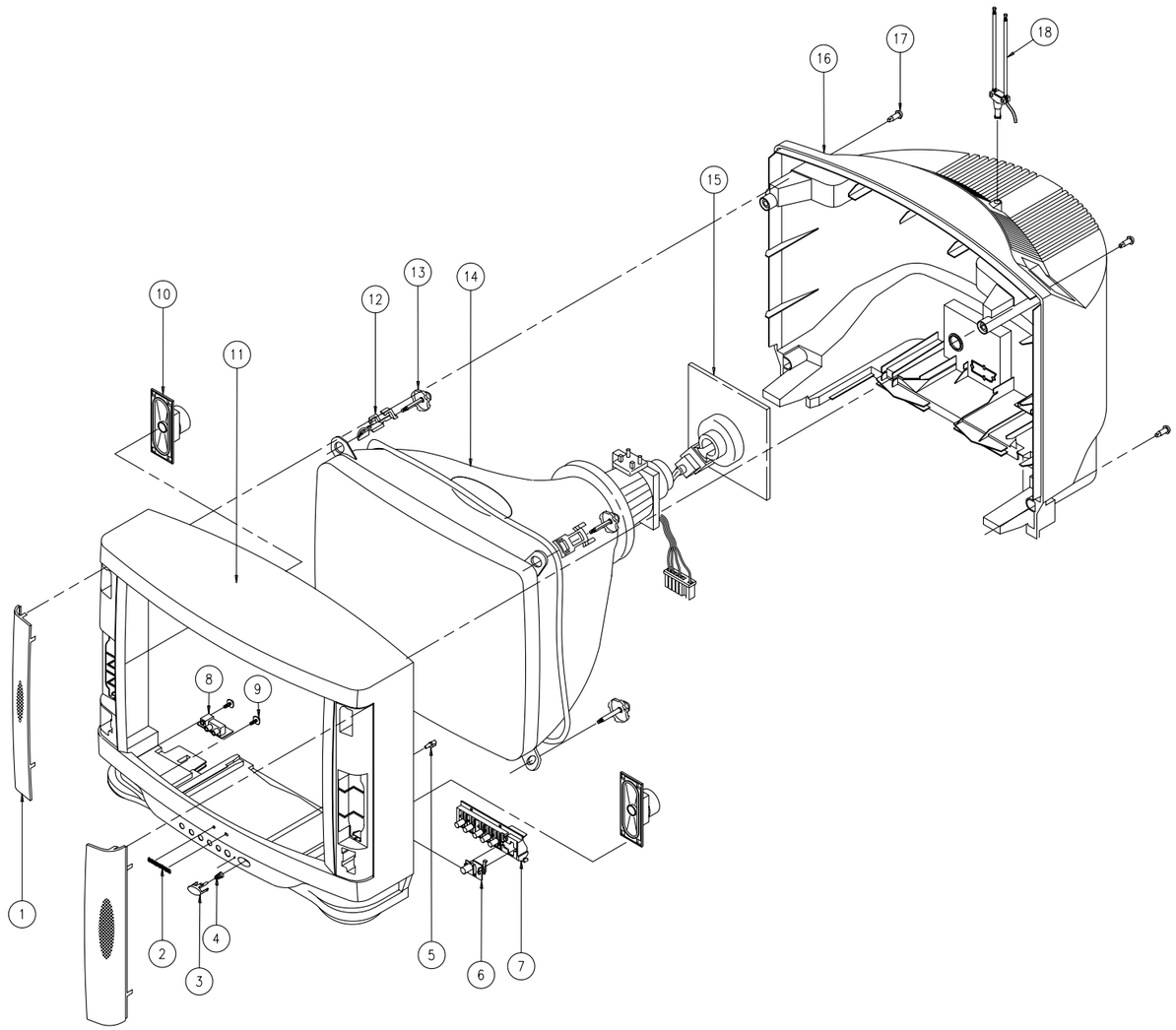



## 5-5 No TTX



# 6. Exploded View & Parts List

## 6-1 CK5085ZR4X/BWT




| No | Code No | Description | Specification | Q'ty | Remark |
|---|---|---|---|---|---|
| 1 | AA63-50049A | GRILLE-WOOFER | -,5085,PA110 GOJUPA,SECC,T | 2 | |
| 2 | AA64-70010B | BADGE-BRAND | AL,SS R2000 25,SILVER,L50,-, | 1 | |
| 3 | AA64-10183A | KNOB-POWER,M | -,33.5085,-,ABS,HB,BLK | 1 | |
| 4 | AA61-60003T | SPRING-CS | -,SUS304,0.5,OD7,H13.5,N5,-,-, | 1 | |
| 5 | AA64-40036A | WINDOW-REMOCON | -,5085,-,PC,-,-,- | 1 | |
| 6 | AA64-40181A | INDICATOR-LED | -,33.50.5385,-,ACRYL,-,-,- | 1 | |
| 7 | AA64-10007A | KNOB-CONTROL | -,5085,-,ABS,HB,BLK | 1 | |
| 8 | AA95-90018U | ASSY-PCB FRONT A/V | -,39,85,SCT13B,MULTI, | 1 | |
| 9 | AA60-10002A | SCREW-TAPPING | RH,+,M4,L12,ZPC(YEL),-,OD1 | 2 | |
| 10 | AA91-60028A | ASSY-HOLDER,SPK | -,ABS,-,-,80HM 5W,5085 | 1 | |
| 11 | AA91-10345C | ASSY-CABINET,FRONT | -,CK5085TBR,PA100 MLB | 1 | |
| | AA64-30104V | CABINET-FRONT | -,CK5085TBR,PA100 MLB,HIPS | 1 | |
| 12 | AA65-30019A | CLAMP-D,COIL | NYLON-66,V0,NTR,DADH-460 20 | 4 | |
| 13 | AA60-10050D | SCREW-ASSY | WC,HH,+,M5,L33,SWRCH18,ZPC(YE | 4 | |
| 14 | AA03-10003P | CRT-COLOR | -,A48KRD82X(BU),+380MG,20,90D | 1 | |
| 15 | 3704-000110 | SOCKET-CRT | 14P,29.1,25.5,SN,ISHS09S/BK | 1 | |
| 16 | AA64-30713D | CABINET-BACK | -,5085,-,HIPS,V2,BLK,-,- | 1 | |
| 17 | 6002-000514 | SCREW-TAPPING | RH,+,2,M4,L15,ZPC(BLK),SWR | 4 | |
| 18 | AA42-10001V | ANT-ROD | -,3S,620mm,BRN,UL/CSA | 1 | |

# 7. Electric Parts List

## 7-1 CK5385ZR4X/BWT (CK5085ZR4X AND CK5385ZR4X Dissimilar Parts)

| Loc. No. | Code No. | Description ; Specification | Remark |
|---|---|---|---|
| | | **ASSY-PCB,MAIN(OPT)** | |
| | | BUYER : SALSC (ALMATY) | |
| * | AA94-10117E | ASSY-PCB,MAIN(OPT);CK5385ZB4X/BWT,SCT13B | |
| * | AA94-10117F | ASSY-PCB,MAIN(OPT);CK5385ZR4X/BWT,SCT13B | |
| * | AA94-10118M | ASSY-PCB,MAIN(OPT);CK5385ZR4X/NWT,SCT13B | |
| C409 | 2306-000353 | C-FILM,MPPF;6.3nF,5%,1.6KV,BK,26.5x8.5x1 | |
| CN802 | AA27-20001Z | COIL-DEGAUSSING;-,21,14.5ohm,35T,L2500, | |
| R253 | 2001-000337 | R-CARBON;130Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R301 | 2004-000717 | R-METAL;3.6KOHM,1%,1/8W,AA,TP,1.8X3.2M | |
| R305 | 2004-004087 | R-METAL(S);1.5OHM,1%,1/2W,AA,TP,2.5X6.5M | |
| R307 | 2003-001034 | R-METAL OXIDE(S);270OHM,5%,1W,AF,TP,2.5X | |
| | | **ASSY-CRT** | |
| | | CK5385ZB4X/BWT | |
| ⚠ | AA03-10004G | CRT-COLOR;-,A51KQJ63X(BU),+380MG,21,90D | |
| | AA27-50002G | DEFLECTION-YOKE;-,DST-2192ML(1),21/A51K | |
| | | CK5385ZB4X/BWT / CK5385ZR4X/NWT | |
| ⚠ | AA03-10004J | CRT-COLOR;-,A51KQJ63X(U),+380MG,21,90DE | |
| | AA27-60001D | MAGNET-CONVERGENCE;-,JH-291-(JH-8210),29 | |

| Loc. No. | Code No. | Description ; Specification | Remark |
|---|---|---|---|
| | | **ASSY-ACCESSORY** | |
| | | CK5385ZB4X/BWT / CK5385ZR4X/BWT | |
| | AA68-11073A | MANUAL-USERS;SCT13B,W/P | |
| | | CK5385ZB4X/NWT | |
| | AA68-11170A | MANUAL-USERS;SCT13B,N-RUS,TM51,B5,W/P | |
| | | **ASSY-CABINET,OPTION** | |
| | | CK5385ZB4X/BWT | |
| | AA91-10098N | ASSY-CABINET,FRONT;-,CK5385ZBR,PA100 | |
| | AA64-30114T | CABINET-FRONT;-,CK5385ZBR,PA100 | |
| | | CK5385ZB4X/BWT / CK5385ZR4X/NWT | |
| | AA91-10098P | ASSY-CABINET,FRONT;-,CK5385ZR,PA100 | |
| | AA64-30114U | CABINET-FRONT;-,CK5385ZR,PA100 | |
| | AA64-30638D | CABINET-BACK;-,5385,-,HIPS,V2,BLK,-,- | |
| | 6002-000512 | SCREW-TAPPING;RH,+,2,M4,L12,ZPC(BLK),SWR | |
| | AA63-50010A | GRILLE-WOOFER;-,5385,PA110 | |
| | AA64-10011A | KNOB-CONTROL;-,5385,-,ABS,HB,BLK | |
| | AA64-10184A | KNOB-POWER,M;-,5385,-,ABS,HB,BLK | |
| | AA64-40048A | WINDOW-REMOCON;-,50.5385,NO-SILK,PC,-,-, | |

## 7-2 CK3385ZR4X/BWT (CK5085ZR4X AND CK3385ZR4X Dissimilar Parts)

| Loc. No. | Code No. | Description ; Specification | Remark |
|---|---|---|---|
| | | **ASSY-PCB,MAIN(OPT)** | |
| | | BUYER : SALSC (ALMATY) | |
| * | AA94-10116U | ASSY-PCB,MAIN(OPT);CK3385ZR4X/BWT,SCT13B | |
| C409 | 2306-000353 | C-FILM,MPPF;6.3nF,5%,1.6KV,BK,26.5x8.5x1 | |
| C416 | 2306-000194 | C-FILM,MPPF;360nF,5%,400V,BK,26x21x14,20 | |
| CN501 | AA39-20122B | LEAD-CONNECTOR,ASSY;-,YBNH025-08,YBNH025 | |
| CN802 | AA27-20001L | COIL-DEGAUSSING;-,14,23.0OHM,100T,L940, | |
| ⚠ Q401 | 0502-000294 | TR-POWER;KSD5071YD,NPN,50W,TO-3PF,ST,8 | |
| R253 | 2001-000305 | R-CARBON;110Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R302 | 2003-000649 | R-METAL;OXIDE(S);330ohm,5%,1W,AF,TP,3.3x | |
| R305 | 2004-004087 | R-METAL(S);1.5OHM,1%,1/2W,AA,TP,2.5X6.5M | |
| R410 | 2004-002011 | R-METAL(S);110Kohm,1%,1/2W,AA,TP,2.4x6.4 | |
| R411 | 2004-002011 | R-METAL(S);110Kohm,1%,1/2W,AA,TP,2.4x6.4 | |
| R505 | 2008-000266 | R-FUSIBLE(S);1ohm,5%,2W,AF,TP,3.9x10mm | |
| R606 | 2001-000007 | R-CARBON;3Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R611 | 2001-000007 | R-CARBON;3Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| ⚠ T444 | AA26-30004H | TRANS-FLYBACK;-,FSV-14A001,14,125V | |
| ⚠ V999 | 3704-000103 | SOCKET-CRT;10P,22.5,14.3,SN,ISMS01S/BK | |
| | | **ASSY-CRT** | |
| ⚠ | AA03-10001D | CRT-COLOR;-,A34KQV42X,+380MG,14,90DEG,5 | |
| ⚠ | AA27-50001K | DEFLECTION-YOKE;-,DSE-1422FL,14/A34KQV4 | |
| | AA27-60001L | MAGNET-CONVERGENCE;-,NY-225,22.5MM | |
| | | **ASSY-SPEAKER** | |

| Loc. No. | Code No. | Description ; Specification | Remark |
|---|---|---|---|
| | 3001-000191 | SPEAKER;3W,8ohm,90dB,180Hz | |
| | AA39-20503B | LEAD-CONNECTOR,ASSY;-,YSH025-04,REC,4P,5 | |
| | | **ASSY-CABINET,OPTION** | |
| | AA91-10343D | ASSY-CABINET,FRONT;-,CK3385ZR,PA100 | |
| | AA64-30111T | CABINET-FRONT;-,CK3385ZR,PA100 | |
| | AA64-30642D | CABINET-BACK;-,3385,-,HIPS,V2,BLK,-,- | |
| | AA65-30016A | CLAMP-D,COIL;NYLON-66,V0,NTR,DADH-360 | |
| | 6002-000512 | SCREW-TAPPING;RH,+,2,M4,L12,ZPC(BLK),SWR | |
| | AA63-50048A | GRILLE-WOOFER;-,3385,PA110,SECC,T0.5,-,- | |
| | AA64-10009A | KNOB-CONTROL;-,3385,-,ABS,HB,BLK | |
| | AA64-40042A | WINDOW-REMOCON;-,PC,-,-,NO-SILK,-,3385 | |
| | AA64-70009B | BADGE-BRAND;AL,SS | |

# 7-3 CK5085ZR4X/BWT Parts List

## ASSY-PCB,MAIN(OPT)

BUYER : SALSC (ALMATY)

* CK5085ZR AA94-10117B ASSY-PCB,MAIN(OPT);CK5085ZR4X/BWT,SCT13B
* CK5085ZB AA94-10117A ASSY-PCB,MAIN(OPT);CK5085ZB4X/BWT,SCT13B

| Loc. No. | Code No. | Description ; Specification | Remark |
|---|---|---|---|
| C101 | 2401-000914 | C-AL;22uF,20%,16V,-,TP,5x11,5mm | |
| C102 | 2401-001082 | C-AL;330NF,20%,50V,GP,TP,5X11MM,5MM | |
| C103 | 2401-000808 | C-AL;220uF,20%,16V,GP,8x11mm,5mm,TP | |
| C104 | 2401-000758 | C-AL;220NF,20%,50V,GP,TP,5X11MM,5MM | |
| C113 | 2401-000947 | C-AL;22uF,20%,35V,GP,TP,5x11mm,- | |
| C201 | 2305-000149 | C-FILM,MPEF;100nF,5%,100V,TP,12x12.5x6.5 | |
| C202 | 2401-001840 | C-AL;100uF,20%,16V,GP,TP,6.3x11,5mm | |
| C203 | 2401-000660 | C-AL;2.2uF,20%,50V,GP,TP,5x11mm,5mm | |
| C205 | 2305-000411 | C-FILM,MPEF;470nF,5%,50V,TP,7.3x4.8x5.5m | |
| C206 | 2305-000412 | C-FILM,MPEF;470nF,5%,63V,TP,-,5mm | |
| C207 | 2305-000196 | C-FILM,MPEF;150nF,5%,63V,TP,-,5mm | |
| C208 | 2401-000480 | C-AL;10uF,20%,50V,GP,TP,5x11,5 | |
| C209 | 2202-000794 | C-CERAMIC,MLC-AXIAL;18PF,5%,50V,CH,TP,3. | |
| C210 | 2301-000264 | C-FILM,PEF;4.7nF,5%,50V,TP,6.5X5.5X3.0X5 | |
| C211 | 2305-000665 | C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m | |
| C212 | 2202-000796 | C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,3 | |
| C213 | 2201-000257 | C-CERAMIC,DISC;16pF,5%,50V,CH,TP,5x3,5 | |
| C214 | 2305-000665 | C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m | |
| C215 | 2301-000201 | C-FILM,PEF;2.2nF,5%,50V,TP,7.4x3.9x13mm, | |
| C216 | 2401-001271 | C-AL;4.7UF,20%,50V,GP,TP,4X7,5MM | |
| C219 | 2401-000603 | C-AL;1UF,20%,50V,GP,TP,5X11MM,5MM | |
| C221 | 2202-000121 | C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP | |
| C222 | 2401-000480 | C-AL;10uF,20%,50V,GP,TP,5x11,5 | |
| C224 | 2202-000121 | C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP | |
| C226 | 2301-000224 | C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm | |
| C227 | 2401-001537 | C-AL;47UF,20%,25V,GP,TP,6.3X7MM,5MM | |
| C230 | 2401-001537 | C-AL;47UF,20%,25V,GP,TP,6.3X7MM,5MM | |
| C231 | 2401-000480 | C-AL;10uF,20%,50V,GP,TP,5x11,5 | |
| C232 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5mm | |
| C234 | 2305-000665 | C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m | |
| C235 | 2305-000665 | C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m | |
| C238 | 2401-001537 | C-AL;47UF,20%,25V,GP,TP,6.3X7MM,5MM | |
| C239 | 2305-000665 | C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m | |
| C240 | 2305-000665 | C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m | |
| C247 | 2202-000109 | C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5 | |
| C248 | 2309-000138 | C-FILM,PE-PPF;100nF,5%,50V,TP,20x16x8.5, | |
| C249 | 2401-000603 | C-AL;1UF,20%,50V,GP,TP,5X11MM,5MM | |
| C250 | 2301-000224 | C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm | |
| C251 | 2301-000204 | C-FILM,PEF;2.7nF,5%,50V,TP,7.4x3.9x13mm, | |
| C252 | 2301-000264 | C-FILM,PEF;4.7nF,5%,50V,TP,6.5X5.5X3.0X5 | |
| C253 | 2305-000665 | C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m | |
| C254 | 2305-000665 | C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m | |
| C255 | 2305-000665 | C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m | |
| C301 | 2202-000796 | C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,3 | |
| C302 | 2202-000796 | C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,3 | |
| C303 | 2401-003028 | C-AL;100uF,20%,25V,WT,TP,6.3x11,5mm | |
| C304 | 2401-002293 | C-AL;68UF,20%,100V,WT,TP,10X20,5 | |
| C306 | 2305-000149 | C-FILM,MPEF;100nF,5%,100V,TP,12x12.5x6.5 | |
| C307 | 2305-000149 | C-FILM,MPEF;100nF,5%,100V,TP,12x12.5x6.5 | |
| C308 | 2305-000450 | C-FILM,MPEF;56NF,5%,100V,-,5MM,TP | |
| C401 | 2301-000380 | C-FILM,PEF;10nF,5%,50V,TP,6.5x3mm,5mm | |
| C402 | 2201-000599 | C-CERAMIC,DISC;560pF,10%,500V,Y5P,TP,7x4 | |
| C403 | 2201-000556 | C-CERAMIC,DISC;470pF,10%,500V,Y5P,TP,7x4 | |
| C404 | 2401-002288 | C-AL;470UF,20%,25V,WT,TP,10X20,5 | |
| C405 | 2305-000354 | C-FILM,MPEF;330NF,5%,50V,TP,7.3X4.8X5.5M | |
| C406 | 2401-000440 | C-AL;10UF,20%,25V,GP,TP,5X11MM,5MM | |
| C407 | 2305-000665 | C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m | |
| C408 | 2401-001537 | C-AL;47UF,20%,25V,GP,TP,6.3X7MM,5MM | |
| C409 | 2306-000253 | C-FILM,MPPF;7.2nF,5%,1.6KV,TP,28.5x18.5x | |
| C410 | 2201-000406 | C-CERAMIC,DISC;270pF,10%,2KV,Y5P,TP,8x6, | |
| C411 | 2401-002278 | C-AL;22uF,20%,250V,WT,TP,13x21,5 | |
| C413 | 2305-000382 | C-FILM,MPEF;4.7nF,5%,400V,TP,-,5mm | |
| C414 | 2305-000154 | C-FILM,MPEF;100nF,5%,400V,TP,21.5x6.5x11 | |
| C415 | 2401-000560 | C-AL;1uF,20%,160V,GP,TP,6.3*11,5mm | |
| C416 | 2306-000204 | C-FILM,MPPF;430nF,5%,400V,TP,26x20.5x12. | |
| C417 | 2201-000556 | C-CERAMIC,DISC;470pF,10%,500V,Y5P,TP,7x4 | |
| C418 | 2401-002293 | C-AL;68UF,20%,100V,WT,TP,10X20,5 | |
| C419 | 2201-000984 | C-CERAMIC,DISC;680pF,10%,2KV,Y5P,TP,11x6 | |
| C502 | 2301-000213 | C-FILM,PEF;220nF,5%,250V,TP,21.5x11,7.5 | |
| C503 | 2201-000158 | C-CERAMIC,DISC;10nF,+80-20%,3KV,Y5V,BK,- | |
| C504 | 2401-001232 | C-AL;4.7uF,20%,250V,GP,TP,10x12.5mm | |
| C506 | 2401-000430 | C-AL;10uF,20%,250V,GP,TP,10x16mm,5m | |
| C601 | 2202-000199 | C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V | |
| C602 | 2401-000947 | C-AL;22uF,20%,35V,GP,TP,5x11mm,- | |
| C603 | 2301-000264 | C-FILM,PEF;4.7nF,5%,50V,TP,6.5X5.5X3.0X5 | |
| C604 | 2401-001323 | C-AL;470nF,20%,50V,BP,TP,5x11,5mm | |
| C610 | 2401-001998 | C-AL;1000uF,20%,25V,GP,TP,10x20,5mm | |
| C611 | 2301-000264 | C-FILM,PEF;4.7nF,5%,50V,TP,6.5X5.5X3.0X5 | |
| C612 | 2401-001323 | C-AL;470nF,20%,50V,BP,TP,5x11,5mm | |
| C613 | 2202-000796 | C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,3 | |
| C614 | 2202-000121 | C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP | |
| C702 | 2202-000121 | C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP | |
| C703 | 2202-000121 | C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP | |
| C704 | 2202-000121 | C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP | |
| C705 | 2401-001264 | C-AL;4.7UF,20%,50V,BP,TP,5X11,5MM | |
| C706 | 2401-001264 | C-AL;4.7UF,20%,50V,BP,TP,5X11,5MM | |
| C800 | 2306-000321 | C-FILM,MPPF;470nF,5%,250V,TP,-,22.5mm | |
| C801 | 2401-002213 | C-AL;150uF,+30-10%,450V,GP,BK,25x35 | |
| C802 | 2401-002284 | C-AL;33uF,20%,50V,GP,TP,5x11mm,5mm | |
| C803 | 2301-000224 | C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm | |
| C804 | 2201-000139 | C-CERAMIC,DISC;100pF,2%,50V,CH,TP,8x3,5 | |
| C805 | 2303-000163 | C-FILM,PPF;2.2nF,5%,800V,TP,15x13x8.5,7. | |
| C806 | 2201-000446 | C-CERAMIC,DISC;3.3nF,20%,400V,Y5U,TP,18x | |
| C807 | 2201-000991 | C-CERAMIC,DISC;560pF,10%,2KV,Y5P,TP,13x7 | |
| C808 | 2401-000262 | C-AL;100UF,20%,160V,HR,TP,16X25,7.5 | |
| C809 | 2401-001527 | C-AL;47uF,20%,250V,HR,TP,13x25mm,5m | |
| C810 | 2201-000991 | C-CERAMIC,DISC;560pF,10%,2KV,Y5P,TP,13x7 | |
| C811 | 2401-003141 | C-AL;2200UF,20%,25V,WT,TP,13X25,5MM | |
| C812 | 2401-001998 | C-AL;1000uF,20%,25V,GP,TP,10x20,5mm | |
| C813 | 2305-000382 | C-FILM,MPEF;4.7nF,5%,400V,TP,-,5mm | |
| C814 | 2301-000264 | C-FILM,PEF;4.7nF,5%,50V,TP,6.5X5.5X3.0X5 | |
| C815 | 2401-000832 | C-AL;220uF,20%,25V,GP,TP,8x11.5,5mm | |
| C818 | 2401-001495 | C-AL;47uF,20%,16V,GP,5x11mm,5mm,TP | |
| C819 | 2401-001840 | C-AL;100uF,20%,16V,GP,TP,6.3x11,5mm | |
| C820 | 2201-000119 | C-CERAMIC,DISC;100nF,+80-20%,50V,Y5V,TP, | |
| C901 | 2401-001840 | C-AL;100uF,20%,16V,GP,TP,6.3x11,5mm | |
| C902 | 2202-000796 | C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,3 | |
| C904 | 2202-000796 | C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,3 | |
| C905 | 2401-001333 | C-AL;470nF,20%,50V,GP,TP,5x11,5 | |
| C907 | 2201-000119 | C-CERAMIC,DISC;100nF,+80-20%,50V,Y5V,TP, | |
| C908 | 2201-000193 | C-CERAMIC,DISC;10pF,0.3pF,50V,CH,TP,5x3, | |
| C909 | 2201-000573 | C-CERAMIC,DISC;47pF,5%,50V,CH,TP,6.5x3.0 | |
| C910 | 2201-000119 | C-CERAMIC,DISC;100nF,+80-20%,50V,Y5V,TP, | |
| C911 | 2401-000440 | C-AL;10UF,20%,25V,GP,TP,5X11MM,5MM | |
| C912 | 2201-000234 | C-CERAMIC,DISC;150pF,5%,50V,NPO,10x3.5mm | |
| C913 | 2301-000108 | C-FILM,PEF;1.5nF,5%,50V,TP,6.5x3.0x5.5mm | |
| C914 | 2305-000149 | C-FILM,MPEF;100nF,5%,100V,TP,12x12.5x6.5 | |
| C915 | 2305-000149 | C-FILM,MPEF;100nF,5%,100V,TP,12x12.5x6.5 | |
| C916 | 2301-000188 | C-FILM,PEF;1nF,5%,100V,TP,10.5x12.5x6.5, | |
| C917 | 2202-000109 | C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5 | |
| C919 | 2202-000796 | C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,3 | |
| C920 | 2401-000480 | C-AL;10uF,20%,50V,GP,TP,5x11,5 | |
| C922 | 2305-000665 | C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m | |
| C923 | 2202-000109 | C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5 | |
| C924 | 2202-000109 | C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5 | |
| C925 | 2401-001495 | C-AL;47uF,20%,16V,GP,5x11mm,5mm,TP | |
| C926 | 2202-000796 | C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,3 | |
| CN01 | 2202-000127 | C-CERAMIC,MLC-AXIAL;10nF,+80-20%,25V,Y5V | |
| CN501 | AA39-20122A | LEAD-CONNECTOR,ASSY;-,YBNH025-08,YBNH025 | |
| CN602 | 3711-002643 | CONNECTOR-HEADER;BOX,4P,1R,2.5MM,STRAIGH | |
| CN701 | 3711-000628 | CONNECTOR-HEADER;AUTO,11P,1R,2.5mm,STRAI | |
| CN802 | AA27-20002A | COIL-DEGAUSSING;-,20,13.5OHM,35T,L2300, | |
| CW901 | 2503-000156 | C-NETWORK;100pFx4,20%,50V | |
| D201 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |
| D204 | 0402-000216 | DIODE-RECTIFIER;ERC24-06,600V,1.0A,DO-20 | |
| D205 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |
| D209 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |
| D210 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |
| D211 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |

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|---|---|---|---|
| D213 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |
| D215 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |
| D216 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |
| D217 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |
| D401 | 0402-000129 | DIODE-RECTIFIER;1N4003,200V,1A,DO-41 | |
| D402 | 0402-000129 | DIODE-RECTIFIER;1N4003,200V,1A,DO-41 | |
| D403 | 0402-001105 | DIODE-RECTIFIER;ERB43-04SV1,400V,1.0A,-, | |
| D404 | 0402-000534 | DIODE-RECTIFIER;RG10V,400V,1.2A,DO-201,T | |
| D405 | 0402-001105 | DIODE-RECTIFIER;ERB43-04SV1,400V,1.0A,-, | |
| D406 | 0402-001105 | DIODE-RECTIFIER;ERB43-04SV1,400V,1.0A,-, | |
| D501 | 0402-000216 | DIODE-RECTIFIER;ERC24-06,600V,1.0A,DO-20 | |
| D502 | 0402-001105 | DIODE-RECTIFIER;ERB43-04SV1,400V,1.0A,-, | |
| D503 | 0402-001105 | DIODE-RECTIFIER;ERB43-04SV1,400V,1.0A,-, | |
| D504 | 0402-001105 | DIODE-RECTIFIER;ERB43-04SV1,400V,1.0A,-, | |
| D701 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |
| D800 | 1405-000152 | VARISTOR;560V,2500A,14x8.5mm,TP | |
| D801 | 0402-000102 | DIODE-BRIDGE;D2SB60,600V,1.5A,- | |
| D802 | 0402-000540 | DIODE-RECTIFIER;RU20A,600V,1.5A,- | |
| D803 | 0402-000430 | DIODE-RECTIFIER;FML-G02S,200V,3.0A,TO-22 | |
| D804 | 0402-000213 | DIODE-RECTIFIER;ERB12-06,600V,1.0A,DO-41 | |
| D809 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |
| D810 | 0402-001105 | DIODE-RECTIFIER;ERB43-04SV1,400V,1.0A,-, | |
| D901 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |
| D903 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |
| D905 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |
| D906 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |
| D907 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |
| D908 | 0401-000005 | DIODE-SWITCHING;1N4148,75V,300mA,DO-35,T | |
| DZ201 | 0403-000295 | DIODE-ZENER;MTZ5.1B,5.1V,4.94-5.20V,500m | |
| DZ203 | 0403-000563 | DIODE-ZENER;MTZ9.1B,9.1V,8.57-9.01V,500m | |
| DZ207 | 0403-000563 | DIODE-ZENER;MTZ9.1B,9.1V,8.57-9.01V,500m | |
| DZ208 | 0403-000563 | DIODE-ZENER;MTZ9.1B,9.1V,8.57-9.01V,500m | |
| DZ301 | 0403-000660 | DIODE-ZENER;MTZ22A,22V,20.15-21.2V,500mW | |
| DZ302 | 0403-001039 | DIODE-ZENER;MA2560,56V,52-60V,1W,DO-41,T | |
| DZ401 | 0403-000563 | DIODE-ZENER;MTZ9.1B,9.1V,8.57-9.01V,500m | |
| DZ501 | 0403-000563 | DIODE-ZENER;MTZ9.1B,9.1V,8.57-9.01V,500m | |
| DZ502 | 0403-000563 | DIODE-ZENER;MTZ9.1B,9.1V,8.57-9.01V,500m | |
| DZ503 | 0403-000563 | DIODE-ZENER;MTZ9.1B,9.1V,8.57-9.01V,500m | |
| DZ504 | 0403-000563 | DIODE-ZENER;MTZ9.1B,9.1V,8.57-9.01V,500m | |
| DZ701 | 0403-000563 | DIODE-ZENER;MTZ9.1B,9.1V,8.57-9.01V,500m | |
| DZ702 | 0403-000563 | DIODE-ZENER;MTZ9.1B,9.1V,8.57-9.01V,500m | |
| DZ703 | 0403-000563 | DIODE-ZENER;MTZ9.1B,9.1V,8.57-9.01V,500m | |
| DZ704 | 0403-000563 | DIODE-ZENER;MTZ9.1B,9.1V,8.57-9.01V,500m | |
| DZ705 | 0403-000563 | DIODE-ZENER;MTZ9.1B,9.1V,8.57-9.01V,500m | |
| DZ802 | 0403-000297 | DIODE-ZENER;MTZ6.2B,6.2V,5.96-6.27V,500m | |
| DZ803 | 1203-001217 | IC-POSI.ADJUST REG.;431,TO-92,3P,4.58MIL | |
| DZ804 | 0403-000294 | DIODE-ZENER;MTZ4.7B,4.55-4.80V,500mW,DO- | |
| DZ805 | 0403-000692 | DIODE-ZENER;R2KN,150-170V,-,150V,TP,- | |
| DZ807 | 0403-000297 | DIODE-ZENER;MTZ6.2B,6.2V,5.96-6.27V,500m | |
| DZ901 | 0403-000563 | DIODE-ZENER;MTZ9.1B,9.1V,8.57-9.01V,500m | |
| DZ902 | 0403-000295 | DIODE-ZENER;MTZ5.1B,5.1V,4.94-5.20V,500m | |
| DZ903 | 1203-000451 | IC-VOLTAGE REGULATOR;33,TO-92,3P,-,PLAST | |
| DZ905 | 0403-000296 | DIODE-ZENER;MTZ5.6B,5.6V,5.45-5.73V,500m | |
| DZ907 | 0403-000296 | DIODE-ZENER;MTZ5.6B,5.6V,5.45-5.73V,500m | |
| ⚠ F801 | 3601-000261 | FUSE-FERRULE;250V,3.15A,TIME LAG,GLASS,5 | |
| F801A | 3602-000114 | FUSE-HOLDER;-,-,30mohm | |
| F801B | 3602-000114 | FUSE-HOLDER;-,-,30mohm | |
| ⚠ F802 | 3601-000120 | FUSE-FERRULE;125V,2.5A,QUICK ACTING,GLAS | |
| GT801 | AA39-20010H | LEAD-CONNECTOR,ASSY;-,YFH800-01,S,1P,300 | |
| ⚠ HC101 | AA13-20004A | IC-HYBRID;-,PAP102T,SIP,6P,PRE-AMP,TP | |
| ⚠ IC201 | 1204-001191 | IC-PAL/NTSC PROCESS;TDA8374A(N3),DIP,56P | |
| ⚠ IC301 | 1204-000441 | IC-IF CIRCUIT;TDA8356,SIP,9P,-,PLASTIC,4 | |
| ⚠ IC501 | 1201-001159 | IC-VIDEO AMP;6107,ZIP,9P,300MIL,SINGLE,- | |
| ⚠ IC602 | 1201-000537 | IC-AUDIO AMP;7057,ZIP,13P,-,DUAL,40DB,PL | |
| ⚠ IC801 | 1203-001218 | IC-PWM CONTROLLER;2S0680,TO-3,5P,32.5MIL | |
| ⚠ IC802 | 1203-000644 | IC-POSI.FIXED REG.;7630,SIP,10P,-,PLASTI | |
| ⚠ IC805 | 1203-000243 | IC-POSI.FIXED REG.;7812A,TO-220,3P,-,PLA | |
| ⚠ IC901 | AA13-30017U | IC-MCU;-,Z8933212PSC-R3474,16BIT,SDIP | |
| ⚠ IC902 | 1103-000156 | IC-EEPROM;24C04,512X8BIT,DIP,8P,300MIL,1 | |
| ⚠ IC903 | 1203-000515 | IC-VOL. DETECTOR;7042,TO-92,3P,177MIL,PL | |
| JS701 | 3722-000183 | JACK-SCART;21P,4mm,SN,BLK,NO | |
| L101 | 2701-000171 | INDUCTOR-AXIAL;330nH,10%,2.5x3.4mm | |
| L102 | 2701-000114 | INDUCTOR-AXIAL;10uH,10%,2.5x3.4mm | |
| L103 | 2701-000114 | INDUCTOR-AXIAL;10uH,10%,2.5x3.4mm | |
| L202 | 2701-000197 | INDUCTOR-AXIAL;5.6uH,10%,2.5x3.4mm | |
| L206 | 2701-000114 | INDUCTOR-AXIAL;10uH,10%,2.5x3.4mm | |
| L301 | 2701-000114 | INDUCTOR-AXIAL;10uH,10%,2.5x3.4mm | |

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|---|---|---|---|
| L302 | 2701-000114 | INDUCTOR-AXIAL;10uH,10%,2.5x3.4mm | |
| L304 | 2701-000116 | INDUCTOR-AXIAL;10uH,10%,4.2x9.8mm | |
| L305 | 2701-000116 | INDUCTOR-AXIAL;10uH,10%,4.2x9.8mm | |
| L401 | AA27-30001B | COIL-LINEARITY;-,195UH,QIC1010,PI0.4,4.5 | |
| L402 | 2901-000297 | FILTER-EMI ON BOARD;-,3A,-,-,3.5x5,TP,- | |
| L601 | 2701-000197 | INDUCTOR-AXIAL;5.6uH,10%,2.5x3.4mm | |
| L702 | AA27-10003X | COIL-CHOKE;-,4.7uH,K,40,190mA,TP,AL02TB4 | |
| L703 | AA27-10003X | COIL-CHOKE;-,4.7uH,K,40,190mA,TP,AL02TB4 | |
| L704 | AA27-10003X | COIL-CHOKE;-,4.7uH,K,40,190mA,TP,AL02TB4 | |
| L705 | 2901-000297 | FILTER-EMI ON BOARD;-,3A,-,-,3.5x5,TP,- | |
| L706 | AA27-10003X | COIL-CHOKE;-,4.7uH,K,40,190mA,TP,AL02TB4 | |
| L801 | AA29-30001G | FILTER-LINE;-,27MH,0.6A,-,- | |
| L804 | 3301-000287 | CORE-FERRITE BEAD;AA,3.5x1x6mm,1500,2400 | |
| L805 | 2901-000297 | FILTER-EMI ON BOARD;-,3A,-,-,3.5x5,TP,- | |
| L807 | 2901-000297 | FILTER-EMI ON BOARD;-,3A,-,-,3.5x5,TP,- | |
| L809 | AA27-10002Y | COIL-CHOKE;-,100UH,K,10,700MA,T,100UH-K( | |
| L810 | AA27-10002Y | COIL-CHOKE;-,100UH,K,10,700MA,T,100UH-K( | |
| L902 | 2701-000189 | INDUCTOR-AXIAL;470nH,10%,2.5x3.4mm | |
| L903 | 2701-000136 | INDUCTOR-AXIAL;18uH,10%,2.5x3.4mm | |
| LD901 | AA96-30001B | ASSY-LED,GUIDE;-,AA61-50055A,DL-G5RGA,- | |
| NT801 | 1404-000187 | THERMISTOR-NTC;4.7ohm,15%,2800K,27.2mW/C | |
| ⚠ P/CORD | AA39-10002W | POWER-CORD;-,KKJ-1004A,HO3VVH2-F,2.286m, | |
| P801 | 1404-000180 | THERMISTOR-PTC;14ohm,20%,-,290V,25A,-,ST | |
| PC801 | 0604-001038 | PHOTO-COUPLER;TR,130-260%,200MW,DIP-4,ST | |
| Q201 | 0501-000389 | TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T | |
| Q202 | 0501-000389 | TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T | |
| Q203 | 0501-000283 | TR-SMALL SIGNAL;KSA539,PNP,400mW,TO-92,T | |
| Q204 | 0501-000389 | TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T | |
| Q206 | 0501-000389 | TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T | |
| Q251 | 0501-000389 | TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T | |
| ⚠ Q401 | 0502-000295 | TR-POWER;KSD5072YD,NPN,1500V,800V,5A,60 | |
| ⚠ Q402 | 0501-000369 | TR-SMALL SIGNAL;KSC2331-Y,NPN,1W,TO-92L, | |
| Q701 | 0501-000389 | TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T | |
| Q703 | 0501-000283 | TR-SMALL SIGNAL;KSA539,PNP,400mW,TO-92,T | |
| Q901 | 0501-000389 | TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T | |
| Q902 | 0501-000389 | TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T | |
| Q903 | 0501-000389 | TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T | |
| Q904 | 0504-000123 | TR-DIGITAL;KSR1010,NPN,300mW,10K,TO-92,T | |
| Q905 | 0504-000123 | TR-DIGITAL;KSR1010,NPN,300mW,10K,TO-92,T | |
| Q906 | 0504-000123 | TR-DIGITAL;KSR1010,NPN,300mW,10K,TO-92,T | |
| Q907 | 0504-000125 | TR-DIGITAL;KSR1012,NPN,300mW,47K,TO-92,T | |
| Q908 | 0504-000123 | TR-DIGITAL;KSR1010,NPN,300mW,10K,TO-92,T | |
| R200 | 2001-000780 | R-CARBON;470ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R201 | 2001-000005 | R-CARBON;390ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R202 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R203 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R204 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R205 | 2001-000793 | R-CARBON;47ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R207 | 2001-000429 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R208 | 2001-000832 | R-CARBON;510ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R209 | 2001-000016 | R-CARBON(S);1ohm,5%,1/2W,AA,TP,2.4x6.4mm | |
| R210 | 2001-000429 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R211 | 2001-000331 | R-CARBON;12Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R212 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R213 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R214 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R215 | 2004-001995 | R-METAL;9.1Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R216 | 2001-000490 | R-CARBON;200ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R217 | 2001-001411 | R-CARBON;5.6Mohm,5%,1/8W,AA,TP,1.7x3.2m | |
| R218 | 2001-000591 | R-CARBON;3.3Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R219 | 2001-000008 | R-CARBON;15Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R220 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R221 | 2001-000660 | R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R222 | 2001-000397 | R-CARBON;180Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R223 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R224 | 2001-000563 | R-CARBON;27Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R225 | 2001-000857 | R-CARBON;560ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R226 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R227 | 2004-001234 | R-METAL;75Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R228 | 2001-000832 | R-CARBON;510ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R230 | 2001-000793 | R-CARBON;47ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R231 | 2001-000563 | R-CARBON;27Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R232 | 2001-000273 | R-CARBON;100Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R234 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R235 | 2004-001089 | R-METAL;560Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R236 | 2003-000634 | R-METAL OXIDE(S);3.9Kohm,5%,1W,AA,TP,3.3 | |
| R237 | 2001-000793 | R-CARBON;47ohm,5%,1/8W,AA,TP,1.8x3.2mm | |

| Loc. No. | Code No. | Description ; Specification | Remark |
|---|---|---|---|
| R240 | 2001-000832 | R-CARBON;510ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R241 | 2001-000734 | R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R242 | 2001-000734 | R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R250 | 2001-000429 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R251 | 2001-000429 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R252 | 2004-001914 | R-METAL;39Kohm,2%,1/8W,AA,TP,1.8x3.5mm | |
| R253 | 2001-000319 | R-CARBON;120Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R254 | 2001-000755 | R-CARBON;430Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R255 | 2001-000429 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R256 | 2001-000290 | R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R260 | 2001-000347 | R-CARBON;13Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R301 | 2004-001983 | R-METAL;2.49Kohm,1%,1/2W,AA,TP,2.4x6.4 | |
| R302 | 2008-001033 | R-FUSIBLE(S);10ohm,5%,2W,AF,TP,3.9x10mm | |
| R303 | 2001-000273 | R-CARBON;100Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R305 | 2004-001370 | R-METAL(S);1.3ohm,1%,1/2W,AA,TP,2.4x6.4m | |
| R306 | 2008-000254 | R-FUSIBLE(S);0.68ohm,5%,2W,AF,TP,3.9x10m | |
| R307 | 2003-001043 | R-METAL OXIDE(S);510ohm,5%,1W,AF,TP,2.5x | |
| R401 | 2001-001103 | R-CARBON(S);20Kohm,5%,1/2W,AA,TP,2.4x6.4 | |
| R403 | 2001-001114 | R-CARBON(S);270ohm,5%,1/2W,AA,TP,2.4x6.4 | |
| R404 | 2008-001033 | R-FUSIBLE(S);10ohm,5%,2W,AF,TP,3.9x10mm | |
| R405 | 2001-001410 | R-CARBON(S);43ohm,5%,1/2W,AA,TP,2.4x6.4m | |
| R406 | 2001-001410 | R-CARBON(S);43ohm,5%,1/2W,AA,TP,2.4x6.4m | |
| R407 | 2001-003019 | R-CARBON(S);0.39ohm,10%,1/2W,AA,TP,2.4x6 | |
| R408 | 2001-000022 | R-CARBON(S);33ohm,5%,1/2W,AA,TP,2.4x6.4m | |
| R409 | 2008-000204 | R-FUSIBLE(S);0.22ohm,10%,1/2W,AF,TP,2.5x | |
| R410 | 2004-001408 | R-METAL(S);91Kohm,1%,1/2W,AA,TP,2.4x6.4m | |
| R411 | 2004-001408 | R-METAL(S);91Kohm,1%,1/2W,AA,TP,2.4x6.4m | |
| R412 | 2003-001035 | R-METAL OXIDE(S);27ohm,0.05,2W,AF,TP,3.9 | |
| R413 | 2003-000784 | R-METAL OXIDE(S);7.5Kohm,5%,2W,AF,TP,4x1 | |
| R414 | 2003-000540 | R-METAL OXIDE(S);1Kohm,5%,2W,AF,TP,4x12m | |
| R415 | 2008-000206 | R-FUSIBLE(S);1ohm,5%,1/2W,AF,TP,2.5x6.5m | |
| R416 | 2008-000277 | R-FUSIBLE;68ohm,5%,1/2W,AA,TP,4.7x11mm | |
| R417 | 2008-000256 | R-FUSIBLE(S);1.5ohm,5%,2W,AA,TP,3.9x10mm | |
| R501H | 2002-001008 | R-COMPOSITION;1.8Kohm,5%,1/2W,AA,TP,3.7x | |
| R502H | 2002-001008 | R-COMPOSITION;1.8Kohm,5%,1/2W,AA,TP,3.7x | |
| R503 | 2002-001008 | R-COMPOSITION;1.8Kohm,5%,1/2W,AA,TP,3.7x | |
| R504 | 2001-001062 | R-CARBON(S);10Mohm,5%,1/2W,AA,TP,2.4x6.4 | |
| R505 | 2008-001011 | R-FUSIBLE(S);0.18ohm,10%,2W,AF,TP,3.9x10 | |
| R510 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R511 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R512 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R603 | 2001-000241 | R-CARBON;1.5Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R604 | 2001-000734 | R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R605 | 2001-000522 | R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R606 | 2001-000605 | R-CARBON;3.6Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R610 | 2001-000522 | R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R611 | 2001-000605 | R-CARBON;3.6Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R701 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R703 | 2001-000429 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R705 | 2001-000003 | R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R706 | 2001-000221 | R-CARBON;1.2Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R713 | 2004-001027 | R-METAL;5.6Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R714 | 2001-000429 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R715 | 2004-001027 | R-METAL;5.6Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R717 | 2004-001027 | R-METAL;5.6Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R801 | 2003-000994 | R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x | |
| R802 | 2003-000994 | R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x | |
| R803 | 2004-001373 | R-METAL(S);100Kohm,1%,1/2W,AA,TP,2.4x6.4 | |
| R805 | 2004-001967 | R-METAL(S);68Kohm,1%,1/2W,AA,TP,6.5x2.5m | |
| R806 | 2002-000328 | R-COMPOSITION;3.3Mohm,10%,1/2W,AA,TP,3.5 | |
| R807 | 2002-000328 | R-COMPOSITION;3.3Mohm,10%,1/2W,AA,TP,3.5 | |
| R810 | 2003-001090 | R-METAL OXIDE(S);10Kohm,5%,2W,AF,TP,4x12 | |
| R811 | 2003-000784 | R-METAL OXIDE(S);7.5Kohm,5%,2W,AF,TP,4x1 | |
| R812 | 2008-000299 | R-FUSIBLE(S);47ohm,5%,2W,AF,TP,3.9x10mm | |
| R813 | 2008-000299 | R-FUSIBLE(S);47ohm,5%,2W,AF,TP,3.9x10mm | |
| R814 | 2008-000189 | R-FUSIBLE;0.47OHM,10%,2W,AA,TP,6X15.5MM | |
| R815 | 2008-000189 | R-FUSIBLE;0.47OHM,10%,2W,AA,TP,6X15.5MM | |
| R816 | 2004-004089 | R-METAL;123KOHM,1%,1/2W,AA,TP,2.5X6.5M | |
| R817 | 2004-001983 | R-METAL;2.49Kohm,1%,1/2W,AA,TP,2.4x6.4 | |
| R818 | 2001-001050 | R-CARBON(S);1.5Kohm,5%,1/2W,AA,TP,2.4x6. | |
| R819 | 2001-001088 | R-CARBON(S);1Kohm,5%,1/2W,AA,TP,2.4x6.4m | |
| R820 | 2008-000299 | R-FUSIBLE(S);47ohm,5%,2W,AF,TP,3.9x10mm | |
| R821 | 2008-000264 | R-FUSIBLE(S);1ohm,5%,1W,AF,TP,3.9x10mm | |
| R822 | 2001-001150 | R-CARBON(S);470Kohm,5%,1/2W,AA,TP,2.4x6. | |
| R823 | 2001-001150 | R-CARBON(S);470Kohm,5%,1/2W,AA,TP,2.4x6. | |
| R824 | 2009-000022 | R-METAL PLATE;0.47ohm,10%,5W,CL,TP,5x14x | |
| R901 | 2001-000793 | R-CARBON;47ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R902 | 2001-000734 | R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R903 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R904 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R905 | 2001-000241 | R-CARBON;1.5Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R906 | 2001-000472 | R-CARBON;2.7Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R907 | 2004-001291 | R-METAL;820ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R908 | 2001-000214 | R-CARBON;1.1Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R909 | 2001-000449 | R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R910 | 2001-000290 | R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R912 | 2004-001193 | R-METAL;680ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R913 | 2004-001193 | R-METAL;680ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R916 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R917 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R918 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R919 | 2001-000290 | R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R920 | 2004-001104 | R-METAL;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R921 | 2001-001062 | R-CARBON(S);10Mohm,5%,1/2W,AA,TP,2.4x6.4 | |
| R922 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R923 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R924 | 2001-000449 | R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R925 | 2001-000449 | R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R926 | 2001-000290 | R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R927 | 2001-000290 | R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R928 | 2001-000066 | R-CARBON(S);10Kohm,5%,1/2W,AA,TP,2.4x6.4 | |
| R929 | 2004-000253 | R-METAL;11Kohm,1%,1/8W,AA,TP,1.8x3.2mm | |
| R930 | 2004-000218 | R-METAL;10Kohm,1%,1/8W,AA,TP,1.8x3.2mm | |
| R931 | 2004-000218 | R-METAL;10Kohm,1%,1/8W,AA,TP,1.8x3.2mm | |
| R934 | 2001-000449 | R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R935 | 2001-000429 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R936 | 2001-000734 | R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R937 | 2001-000734 | R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R938 | 2001-000472 | R-CARBON;2.7Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R940 | 2004-001234 | R-METAL;75Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R944 | 2004-001201 | R-METAL;68Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R945 | 2001-001062 | R-CARBON(S);10Mohm,5%,1/2W,AA,TP,2.4x6.4 | |
| R946 | 2001-000429 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R947 | 2001-000429 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R948 | 2001-000241 | R-CARBON;1.5Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R951 | 2001-000734 | R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R952 | 2001-000281 | R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R954 | 2001-000006 | R-CARBON;2.4Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| R955 | 2001-000429 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R956 | 2001-000429 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R957 | 2001-000832 | R-CARBON;510ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R960 | 2001-000290 | R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R962 | 2001-000273 | R-CARBON;100Kohm,5%,1/8W,AA,TP,1.8x3.2m | |
| RL901 | AA59-60001U | MODULE-REMOCON;-,ORC-50VF,38KHZ,940NM,ME | |
| RW701 | 2011-001059 | R-NETWORK;33K/24K/75/75/75OHM,5%,1/8W,X, | |
| RW702 | 2011-001058 | R-NETWORK;75/75/1K/75OHM,5%,1/8W,X,SIP,5 | |
| RX801 | 2002-000328 | R-COMPOSITION;3.3Mohm,10%,1/2W,AA,TP,3.5 | |
| SFN02 | 2904-001063 | FILTER-SAW AV;38.9MHz,SIP5K,TP,17dB,PAL- | |
| SW801 | 3403-000179 | SWITCH-PUSH;250V,5A,DPST,-,JPW-2104B | |
| SW901 | 3404-000244 | SWITCH-TACT;15V,20mA,90-170gf,7.5x7mm,SP | |
| SW902 | 3404-000244 | SWITCH-TACT;15V,20mA,90-170gf,7.5x7mm,SP | |
| SW903 | 3404-000244 | SWITCH-TACT;15V,20mA,90-170gf,7.5x7mm,SP | |
| SW904 | 3404-000244 | SWITCH-TACT;15V,20mA,90-170gf,7.5x7mm,SP | |
| SW905 | 3404-000244 | SWITCH-TACT;15V,20mA,90-170gf,7.5x7mm,SP | |
| ⚠T201 | AA26-10005G | TRANS-IF;-,7MG,VIF,150NH,-,-,38.8MHZ,ST | |
| ⚠T401 | AA26-50001B | HORIZ.DRIVE;-,7.1MH,102UH,10-20UH,YL081, | |
| ⚠T444 | AA26-30001Y | TRANS-FLYBACK;-,FSV-20A001,20,125V | |
| ⚠T801 | AA26-20006U | TRANS-SWITCHING;-,90-260V,125V/12.5V,EN, | |
| ⚠TU01 | AA40-10003N | TUNER-V/S;-,TECC0985VD28A,PAL-B/G,TR,105 | |
| ⚠V999 | 3704-000110 | SOCKET-CRT;14P,29.1,25.5,SN,ISHS09S/BK | |
| X202 | 2801-000226 | CRYSTAL-UNIT;3.579545MHz,20ppm,28-AAM,15 | |
| X203 | 2801-000276 | CRYSTAL-UNIT;4.433619MHz,40ppm,28-AAM,20 | |
| X901 | 2801-003224 | CRYSTAL-UNIT;32.768KHZ,20PPM,28-AAY,12.5 | |
| Z201 | 2903-000199 | FILTER-CERAMIC;TR,6.5MHz,70KHz,-,-,TP,- | |
| Z202 | 2903-000181 | FILTER-CERAMIC;TR,5.5MHz,-,-,-,TP,TPS5.5 | |
| Z204 | 2903-000184 | FILTER-CERAMIC;BP,5.5MHz,+-60KHz,6dB,-,T | |
| Z205 | 2903-000200 | FILTER-CERAMIC;BP,6.5MHz,+-70KHz,6dB,-,T | |
| Z206 | 2903-000184 | FILTER-CERAMIC;BP,5.5MHz,+-60KHz,6dB,-,T | |

## ASSY-PCB,SECAM

| | | | |
|---|---|---|---|
| * | AA95-90017S | ASSY-PCB,SECAM;-,-,SCT13B,CS,CK,-,- | |

| Loc. No. | Code No. | Description ; Specification | Remark |
|---|---|---|---|
| C217 | 2202-000796 | C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,3 | |
| C218 | 2202-000796 | C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,3 | |
| C220 | 2401-001495 | C-AL;47uF,20%,16V,GP,5x11mm,5mm,TP | |
| C241 | 2305-000665 | C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m | |
| C242 | 2305-000288 | C-FILM,MPEF;220nF,5%,50V,TP,7.3x4.8x5.5m | |
| C243 | 2401-001495 | C-AL;47uF,20%,16V,GP,5x11mm,5mm,TP | |
| C244 | 2305-000665 | C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m | |
| C245 | 2202-000109 | C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5 | |
| CN202 | 3711-002707 | CONNECTOR-HEADER;NOWALL,9P,1R,2.5mm,ANGL | |
| DZ202 | 0403-000296 | DIODE-ZENER;MTZ5.6B,5.6V,5.45-5.73V,500m | |
| IC202 | 1209-000214 | IC-DELAY LINE;TDA4665,DIP,16P,300MIL,PLA | |
| IC203 | 1204-000524 | IC-DECODER;TDA8395P/N1,DIP,16P,-,PLASTIC | |
| L201 | 2701-000114 | INDUCTOR-AXIAL;10uH,10%,2.5x3.4mm | |
| R233 | 2001-001077 | R-CARBON(S);150ohm,5%,1/2W,AA,TP,2.4x6.4 | |

## ASSY-PCB FRONT A/V

| | | | |
|---|---|---|---|
| * | AA95-90018U | ASSY-PCB FRONT A/V;-,39,85,SCT13B,MULTI, | |
| CE01 | 2401-001840 | C-AL;100uF,20%,16V,GP,TP,6.3x11,5mm | |
| CE03 | 2401-001264 | C-AL;4.7UF,20%,50V,BP,TP,5X11,5MM | |
| CE06 | 2202-000862 | C-CERAMIC,MLC-AXIAL;390pF,10%,50V,Y5P,TP | |
| CE07 | 2202-000222 | C-CERAMIC,MLC-AXIAL;3.3nF,20%,16V,Y5P,TP | |
| CN702 | AA39-20461C | LEAD CONNECTOR-ASSY;-,YBNH250-11,67096-0 | |
| JA702 | 3722-000506 | JACK-RCA;2P,3.6MM,-,AG | |
| JE601 | 3722-000143 | JACK-PHONE;1P(VER),3.4mm,AG,BLK,NO | |
| QE01 | 0501-000283 | TR-SMALL SIGNAL;KSA539,PNP,400mW,TO-92,T | |
| RE01 | 2001-001153 | R-CARBON(S);47ohm,5%,1/2W,AA,TP,2.4x6.4m | |
| RE02 | 2001-001153 | R-CARBON(S);47ohm,5%,1/2W,AA,TP,2.4x6.4m | |
| RE03 | 2004-001201 | R-METAL;68Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| RE04 | 2001-000429 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| RE05 | 2001-000009 | R-CARBON;20Kohm,5%,1/8W,AA,TP,1.8x3.2mm | |

## REMOCON

| | | | |
|---|---|---|---|
| * | AA59-10081F | REMOCON;-,TM51,SZM139,27,L/GRY,SS | |

## ASSY-HOLDER,SPK

| | | | |
|---|---|---|---|
| * | AA91-60028A | ASSY-HOLDER,SPK;-,ABS,-,-,80HM 5W,5085 | |

## ASSY-CRT

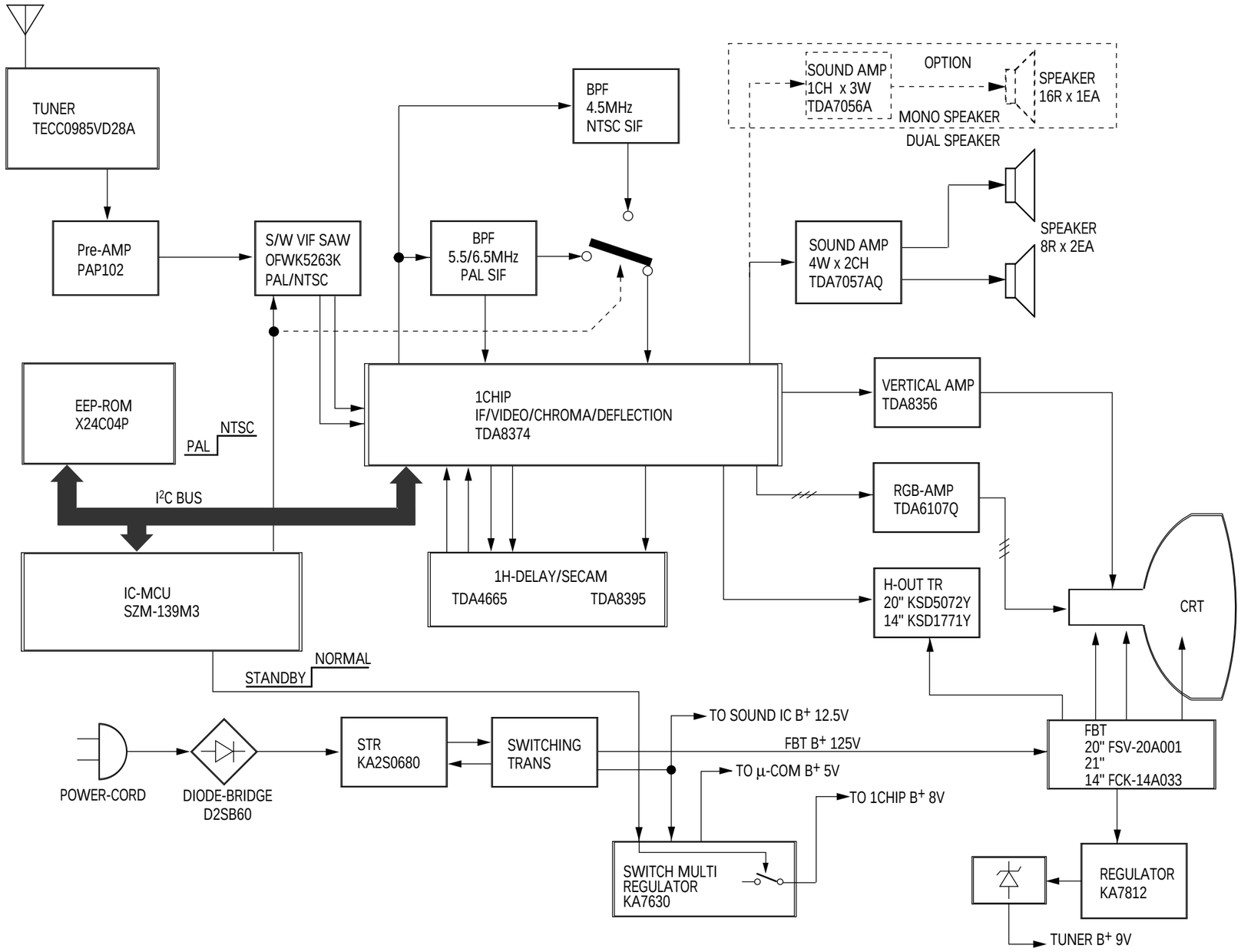
| | | | |
|---|---|---|---|
| ⚠ | CK5085ZR | AA03-10003L CRT-COLOR;-,A48KRD82X(U),+380MG,20,90DE | |
| ⚠ | CK5085ZB | AA03-10003P CRT-COLOR;-,A48KRD82X(BU),+380MG,20,90D | |
| | | AA27-50001S DEFLECTION-YOKE;-,DSE-1992LL(1),20/A48K | |
| | | AA27-60001K MAGNET-CONVERGENCE;-,NY-291,29.1MM | |
| | | AA63-60028A SPACER-DY;NEOPRENE,-,BLK,V0 W12,-,- | |

## ASSY-ACCESSORY

| | | | |
|---|---|---|---|
| | AA26-90001C | TRANS-MATCHING;-,300ohm/75ohm,PAL,40-890 | |
| | AA42-10001V | ANT-ROD;-,3S,620mm,BRN,UL/CSA | |
| | AA68-11073A | MANUAL-USERS;SCT13B,W/P 100(G),B5,RUS,-, | |

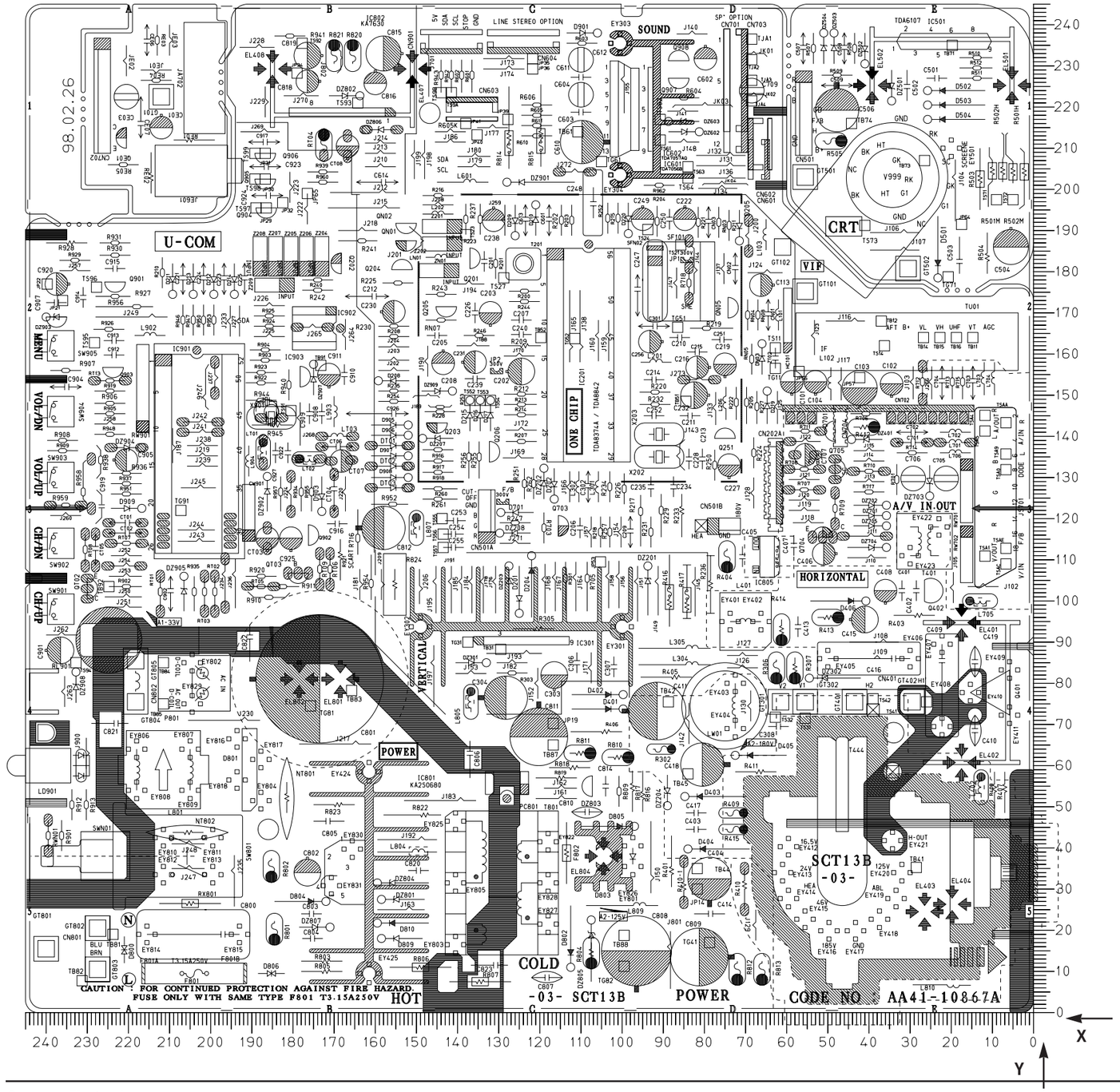
# 8. Block Diagram

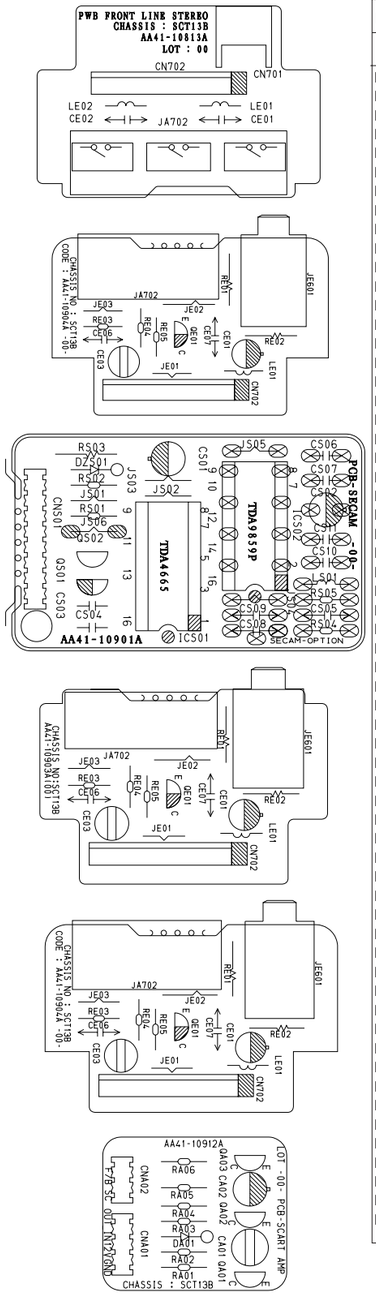
## 8-1 SCT13B



# 9. PCB Layout

## 9-1 PCB MAIN



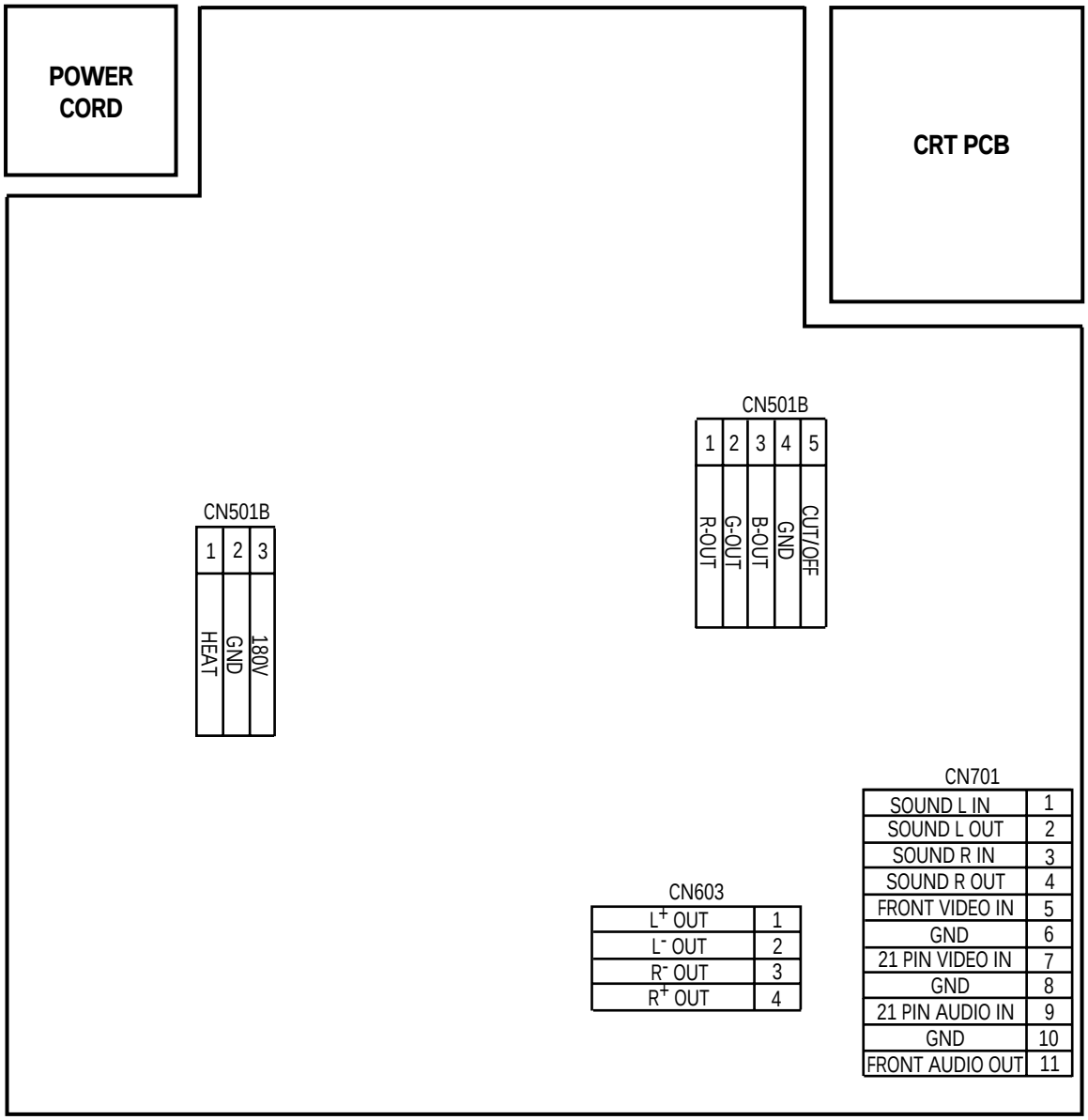




| Loc. No. | X | Y |
|---|---|---|
| **DIODE** | | |
| D201 | 125 | 97 |
| D202 | 116 | 124 |
| D204 | 122 | 111 |
| D205 | 71 | 187 |
| D208 | 159 | 153 |
| D209 | 126 | 188 |
| D210 | 121 | 196 |
| D211 | 209 | 174 |
| D212 | 199 | 174 |
| D213 | 204 | 174 |
| D214 | 194 | 174 |
| D215 | 137 | 148 |
| D216 | 134 | 148 |
| D217 | 132 | 148 |
| D219 | 64 | 151 |
| D220 | 98 | 189 |
| D401 | 99 | 73 |
| D402 | 99 | 77 |
| D403 | 84 | 52 |
| D404 | 84 | 39 |
| D405 | 72 | 62 |
| D406 | 40 | 100 |
| D501 | 23 | 178 |
| D502 | 25 | 224 |
| D503 | 25 | 220 |
| D504 | 25 | 217 |
| D701 | 129 | 121 |
| D800 | 221 | 19 |
| D801 | 188 | 51 |
| D802 | 112 | 11 |
| D803 | 104 | 38 |
| D804 | 172 | 27 |
| D805 | 97 | 45 |
| D806 | 181 | 9 |
| D809 | 158 | 18 |
| D810 | 159 | 21 |
| D901 | 106 | 238 |
| D903 | 173 | 121 |
| D905 | 152 | 142 |
| D906 | 152 | 140 |
| D907 | 152 | 135 |
| D908 | 152 | 130 |
| D909 | 216 | 122 |
| DN03 | 66 | 162 |
| DT01 | 152 | 137 |
| DT02 | 152 | 132 |
| DT03 | 152 | 127 |
| DZ201 | 93 | 108 |
| DZ202 | 119 | 132 |
| DZ203 | 127 | 108 |
| DZ204 | 89 | 50 |
| DZ207 | 148 | 139 |
| DZ208 | 129 | 116 |
| DZ301 | 133 | 85 |
| DZ302 | 54 | 81 |
| DZ401 | 44 | 139 |
| DZ501 | 34 | 221 |
| DZ502 | 41 | 230 |
| DZ503 | 48 | 238 |
| DZ504 | 51 | 238 |
| DZ602 | 81 | 214 |

| Loc. No. | X | Y |
|---|---|---|
| DZ603 | 88 | 216 |
| DZ701 | 35 | 120 |
| DZ702 | 35 | 123 |
| DZ703 | 25 | 125 |
| DZ704 | 35 | 113 |
| DZ705 | 35 | 118 |
| DZ801 | 158 | 27 |
| DZ802 | 163 | 222 |
| DZ803 | 107 | 57 |
| DZ804 | 159 | 31 |
| DZ805 | 107 | 22 |
| DZ806 | 162 | 214 |
| DZ807 | 171 | 20 |
| DZ901 | 128 | 201 |
| DZ902 | 186 | 130 |
| DZ903 | 240 | 169 |
| DZ904 | 216 | 137 |
| DZ905 | 206 | 106 |
| DZ907 | 175 | 157 |
| DZ908 | 232 | 82 |
| DZ909 | 141 | 151 |
| **IC** | | |
| HC101 | 59 | 161 |
| IC201 | 100 | 183 |
| IC301 | 100 | 93 |
| IC501 | 39 | 225 |
| IC601 | 100 | 235 |
| IC602 | 100 | 235 |
| IC801 | 161 | 9 |
| IC802 | 151 | 229 |
| IC805 | 64 | 108 |
| IC901 | 195 | 158 |
| IC902 | 171 | 162 |
| IC903 | 178 | 152 |
| **TRANSISTOR** | | |
| Q201 | 137 | 180 |
| Q202 | 168 | 184 |
| Q203 | 147 | 143 |
| Q204 | 151 | 180 |
| Q205 | 145 | 171 |
| Q206 | 132 | 133 |
| Q251 | 72 | 139 |
| Q401 | 17 | 94 |
| Q402 | 25 | 100 |
| Q701 | 48 | 143 |
| Q703 | 115 | 115 |
| Q704 | 48 | 115 |
| Q705 | 48 | 129 |
| Q901 | 225 | 177 |
| Q902 | 176 | 113 |
| Q903 | 226 | 156 |
| Q904 | 189 | 195 |
| Q905 | 189 | 202 |
| Q906 | 189 | 208 |
| Q907 | 88 | 227 |
| Q908 | 83 | 231 |
| QE01 | 220 | 215 |
| QN01 | 155 | 187 |
| QN02 | 155 | 191 |

# 10. Wiring Diagram

## 10-1 SCT13B



# MEMO

# 11. Schematic Diagrams

## 11-1 TTX Micom

MICOM OPTION

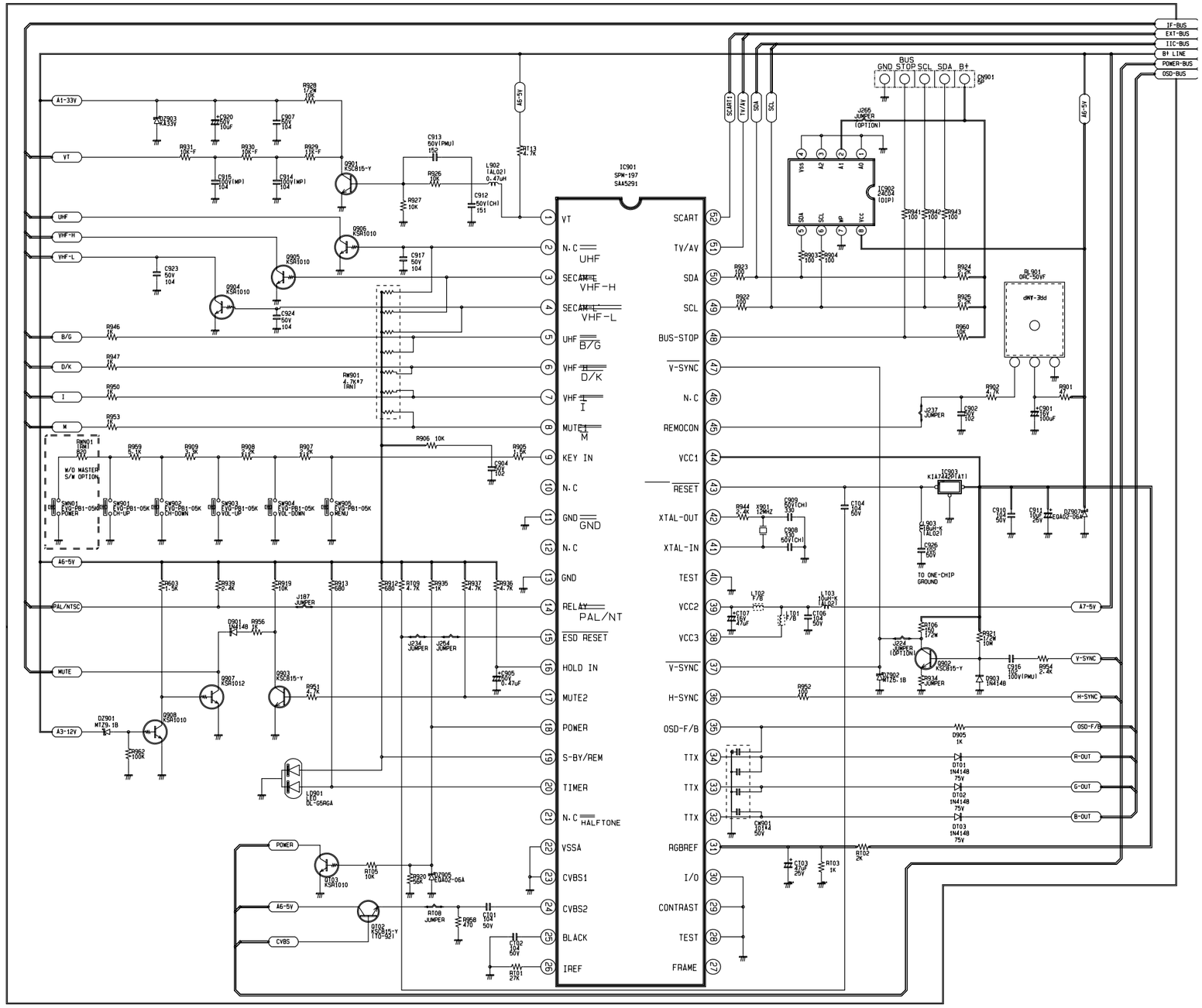
| WICOM LOC | NON TTX u-COM CODE-NO | NON TTX u-COM SPEC | TTX u-COM CODE-NO | TTX u-COM SPEC |
|---|---|---|---|---|
| C908 | 2201-000193 | C-C : 10PF 50V CH | 2201-000980 | C-C : 30PF 50V CH |
| C909 | 2201-000573 | C-C : 47PF 50V CH | 2201-000980 | C-C : 30PF 50V CH |
| C919 | 2202-000796 | C-AXIAL: 1NF 50V | DELETE | DELETE |
| C922 | 2305-000665 | C-FILM: 104 63V | DELETE | DELETE |
| C925 | 2401-001495 | C-AL: 47UF 16V | DELETE | DELETE |
| C101 | DELETE | DELETE | 2202-000109 | C-AXIAL: 104 50V |
| C102 | DELETE | DELETE | 2202-000109 | C-AXIAL: 104 50V |
| C103 | DELETE | DELETE | 2401-001495 | C-AL: 47UF 16V |
| C104 | DELETE | DELETE | 2202-000109 | C-AXIAL: 104 50V |
| C106 | DELETE | DELETE | 2202-000109 | C-AXIAL: 104 50V |
| C107 | DELETE | DELETE | 2401-001495 | C-AL: 47UF 16V |
| D905 | 0401-000005 | DIODE 1N4148 | 2001-000429 | R-CARBON: 1K 1/8W |
| D906 | 0401-000005 | DIODE 1N4148 | DELETE | DELETE |
| D907 | 0401-000005 | DIODE 1N4148 | DELETE | DELETE |
| D908 | 0401-000005 | DIODE 1N4148 | DELETE | DELETE |
| IC901 | - | SZ4193 | - | SPW-197 |
| IC903 | 1203-000515 | KIA7042P-AT | 1203-000641 | KIA7442P-AT |
| J111 | DELETE | DELETE | 3812-000219 | JUMPER |
| J184 | 3812-000219 | JUMPER | 2001-000857 | R-CARBON:560 1/8W |
| J185 | 3812-000219 | JUMPER | 2001-000857 | R-CARBON:560 1/8W |
| J191 | 3812-000219 | JUMPER | 2001-000857 | R-CARBON:560 1/8W |
| J224 | DELETE | DELETE | 3812-000219 | JUMPER |
| J234 | DELETE | DELETE | 3812-000219 | JUMPER |
| J237 | DELETE | DELETE | 3812-000219 | JUMPER |
| J239 | 3812-000219 | JUMPER | DELETE | DELETE |
| J245 | 3812-000219 | JUMPER | DELETE | DELETE |
| J254 | DELETE | DELETE | 3812-000219 | JUMPER |
| J264 | 3812-000219 | JUMPER | DELETE | DELETE |
| J265 | DELETE | DELETE | 3812-000219 | JUMPER |
| L101 | DELETE | DELETE | 2901-000297 | FERRITE-BEAD |
| L102 | DELETE | DELETE | 2901-000297 | FERRITE-BEAD |
| L103 | DELETE | DELETE | 2701-000114 | COIL AL02 10uH |
| Q704 | DELETE | DELETE | 0501-000283 | KSA539 |
| Q102 | DELETE | DELETE | 0501-000389 | KSC815-Y |
| Q103 | DELETE | DELETE | 0504-000123 | KSR1010 |
| R906 | 2001-000472 | R-CARBON:2.7K 1/8W | 2001-000290 | R-CARBON:10K 1/8W |
| R907 | 2004-001291 | R-CARBON:820 1/8W | 2001-000449 | R-CARBON:2.2K 1/8W |
| R908 | 2001-000214 | R-CARBON:1.1K 1/8W | 2001-000449 | R-CARBON:2.2K 1/8W |
| R909 | 2001-000449 | R-CARBON:2.2K 1/8W | 2001-000591 | R-CARBON:3.3K 1/8W |
| R910 | 2001-000290 | R-CARBON:10K 1/8W | DELETE | DELETE |
| R916 | 2001-000281 | R-CA:1/8T 68K-J | DELETE | DELETE |
| R917 | 2001-000281 | R-CA:1/2T 10M-J | DELETE | DELETE |
| R918 | 2001-000281 | R-CA:1/8T 510-J | DELETE | DELETE |
| R934 | 2001-000449 | R-CARBON:2.2K 1/8W | 3812-000212 | JUMPER |
| R938 | 2001-000472 | R-CARBON:2.7K 1/8W | DELETE | DELETE |
| R940 | 2001-001234 | R-CARBON:75K 1/8W | DELETE | DELETE |
| R944 | 2004-001201 | R-CARB:68K 1/8W | 2001-000006 | R-CARB:2.4K 1/8W |
| R945 | 2001-001062 | R-CARB:10M 1/8W | DELETE | DELETE |
| R948 | 2001-000241 | R-CARB:1.K 1/8W | DELETE | DELETE |
| R955 | 2001-000429 | R-CARB:1K 1/8W | DELETE | DELETE |
| R957 | 2001-000832 | R-CARB:510 1/8W | DELETE | DELETE |
| R958 | DELETE | DELETE | 2001-000793 | R-CARB:470 1/8W |
| R959 | DELETE | DELETE | 2001-000800 | R-CARB:15.1K 1/8W |
| RT01 | DELETE | DELETE | 2001-000563 | R-CARB:27K 1/8W |
| RT02 | DELETE | DELETE | 2001-000577 | R-CARB:2K 1/8W |
| R103 | DELETE | DELETE | 2001-000429 | R-CARB:1K 1/8W |
| R104 | DELETE | DELETE | 2008-001062 | R-FUSIBLE:39 2W |
| R105 | DELETE | DELETE | 2001-000290 | R-CARB:10K 1/8W |
| R106 | 3812-000219 | JUMPER | 2001-000362 | R-CARB:150 1/8W |
| R108 | DELETE | DELETE | 3812-000219 | JUMPER |
| R109 | DELETE | DELETE | 2001-000734 | R-CARB:4.7K 1/8W |
| RT13 | DELETE | DELETE | 2001-000734 | R-CARB:4.7K 1/8W |
| D101 | DELETE | DELETE | 0401-00005 | DIODE 1N4148 |
| D102 | DELETE | DELETE | 0401-00005 | DIODE 1N4148 |
| D103 | DELETE | DELETE | 0401-00005 | DIODE 1N4148 |
| X901 | 2801-003224 | 32.76BKHz | 2801-001476 | 12MHz |
| RB20 | 2008-000299 | R-FUSIBLE 47 2W | 2008-001062 | R-FUSIBLE 2W 39 |
| RB21 | 2008-000264 | R-FUSIBLE 1 1W | DELETE | DELETE |
| JB02 | DELETE | DELETE | 3812-000219 | JUMPER |
| DZ805 | DELETE | DELETE | 2003-000706 | R-METAL 47K 2W AA |
| DZ806 | DELETE | DELETE | 0403-000295 | DIODE MTZ5.1B |
| R406 | 2001-0001410 | R-CARBON 43 1/2W | 2001-001126 | R-CARB 300 1/2W |

SYSTEM OPTION

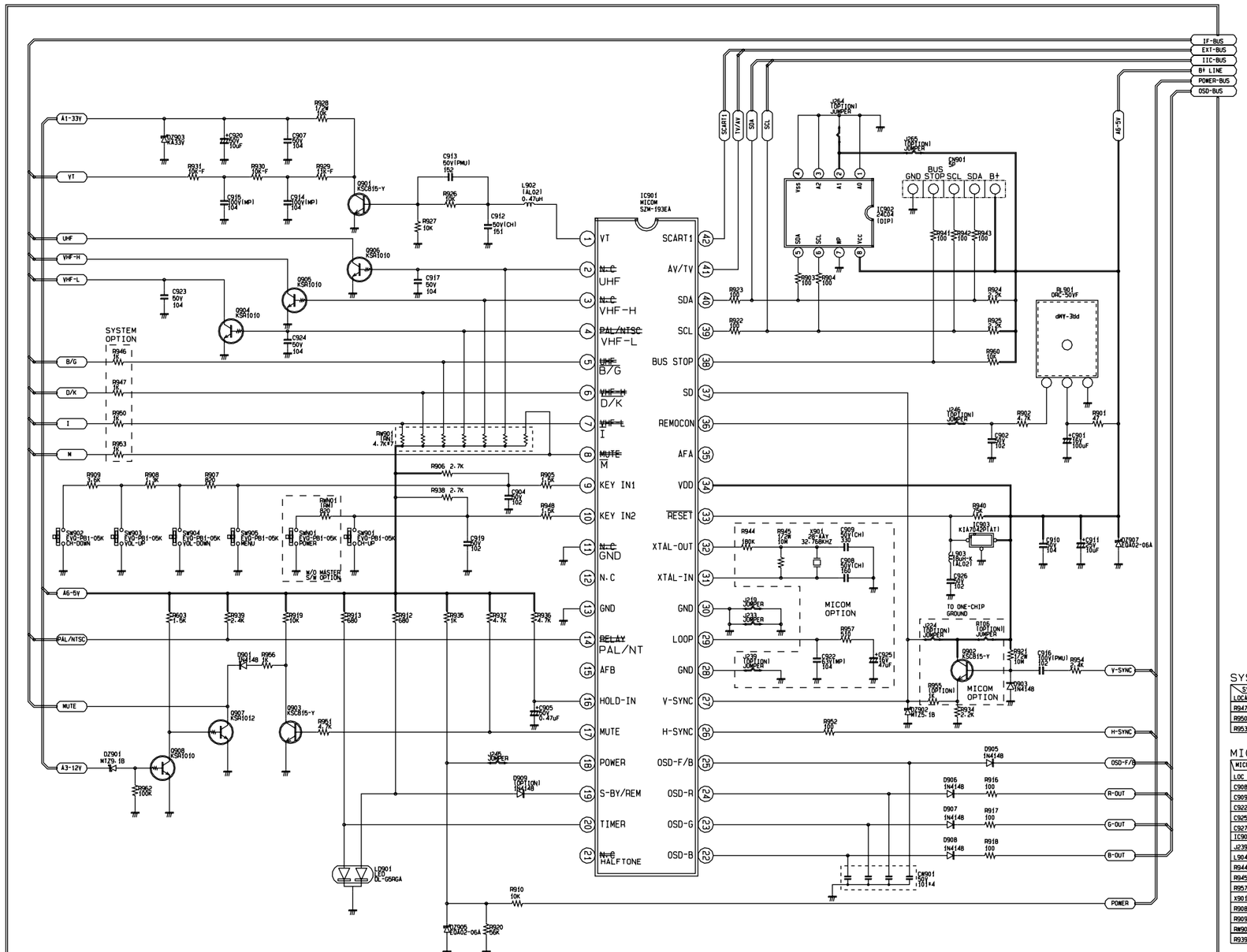
| SYSTEM LOCA-NO | CS-SYSTEM | CK-SYSTEM | CB-SYSTEM |
|---|---|---|---|
| R947 | R-CA:1/8T 1K-J | R-CA:1/8T 1K-J | DELETE |
| R950 | R-CA:1/8T 1K-J | DELETE | DELETE |
| R953 | R-CA:1/8T 1K-J | DELETE | DELETE |

MASTER/TACT-S/W OPTION

| S/W LOC | MASTER-S/W | TACT-S/W |
|---|---|---|
| RWND1 | DELETE | R-CA:1/8T 820-J |
| SWND1 | DELETE | SWITCH-TACT:15V 20mA |


IF-BUS
EXT-BUS
IIC-BUS
B+ LINE
POWER-BUS
OSD-BUS
BUS
GND STOP SCL SDA B+
CN901
J265 JUMPER (OPTION)
IC901 SPW-197 SAA5291
IC902 24C04 (DIP)
IC903 KIA7442P(AT)
RL901 ORG-5DVF
A1-33V
A6-5V
A7-5V
A3-12V
VT
UHF
VHF-H
VHF-L
B/G
D/K
I
M
PAL/NTSC
MUTE
POWER
CVBS
SCART
TV/AV
SDA
SCL
BUS-STOP
V-SYNC
N.C
REMOCON
VCC1
RESET
XTAL-OUT
XTAL-IN
TEST
VCC2
VCC3
H-SYNC
OSD-F/B
TTX
RGBREF
I/O
CONTRAST
FRAME
VT
N.C
SECAM-H
SECAM-L
UHF
VHF-H
VHF-L
MUTE
KEY IN
GND
REL
ESD RESET
HOLD IN
MUTE2
POWER
S-BY/REM
TIMER
HALFTONE
VSSA
CVBS1
CVBS2
BLACK
IREF
PAL/NT
R928 1/2W 10K
R931 10K-F
R930 10K-F
R929 11K-F
C913 50V(PMU) 152
L902 (AL02) 0.47uH
R926 10K
R927 10K
C912 50V(CH) 151
C915 50V(WP) 104
C914 50V(WP) 104
C917 50V 104
C923 50V 104
C924 50V 104
C907 50V 104
C920 50V 10uF
R946 1K
R947 1K
R950 1K
R953 1K
RW901 4.7K*7 (ARY)
R906 10K
C904 50V 102
R959 5.1K
R909 3.3K
R908 2.2K
R907 2.2K
SW901 EVQ-PB1-05K POWER
SW902 EVQ-PB1-05K CH-DOWN
SW903 EVQ-PB1-05K VOL-UP
SW904 EVQ-PB1-05K VOL-DOWN
SW905 EVQ-PB1-05K MENU
W/O MASTER S/W OPTION
R603 1.5K
R939 2.4K
R919 10K
R913 680
R912 680
R709 2.7K
R935 1K
R937 4.7K
R936 4.7K
J187 JUMPER
D901 1N4148
R956 1K
J234 JUMPER
J254 JUMPER
C905 50V 0.47uF
R951 4.7K
R962 100K
DZ901 MTZ9.1B
LD901 LED DL-05RGA
R105 10K
R920 68K
DZ905 MTZ6.2EQA02-06A
R108 JUMPER
R958 470
C101 104 50V
C102 104 50V
RT01 27K
C107 16V 47uF
C106 104 50V
LT01 1.8/B
LT02 1.8/B
LT03 10uH-K (AL04)
R106 150 1/2W
R921 10K 1W
J224 JUMPER (OPTION)
DZ902 MTZ6.1B
R934 JUMPER
C916 102 100V(PMU)
R954 2.4K
R952 10K
R905 1K
DT01 1N4148 75V
DT02 1N4148 75V
DT03 1N4148 75V
CN901 104 50V
RT02 2K
C103 47uF 25V
RT03 1K
R944 2.4K
X901 12MHz
C909 50V(CH) 330
C908 50V(CH) 180
C104 104 50V
L903 (AL02)
C905 180 50V
TO ONE-CHIP GROUND
C910 104 50V
C911 10uF 25V
DZ907 MTZ6.2EQA02-06A
R941 100
R942 100
R943 100
R903 100
R904 100
R923 100
R924 2.4K
R922 100
R925 2.4K
R950 100
R902 4.7K
R901 10
C901 16V 100uF
C902 102
J237 JUMPER
R923 100
C903 104 50V
C904 104 50V
C905 104 50V
C906 104 50V
C907 104 50V
C908 104 50V
C909 104 50V
C910 104 50V
C911 104 50V
C912 104 50V
C913 104 50V
C914 104 50V
C915 104 50V

## 11-2 W/O TTX Micom




SYSTEM OPTION

| SYSTEM / LOCAL NO | CS-SYSTEM | CK-SYSTEM | CB-SYSTEM |
|---|---|---|---|
| R947 | R-CA:1/8T 1K-J | R-CA:1/8T 1K-J | DELETE |
| R950 | R-CA:1/8T 1K-J | DELETE | DELETE |
| R953 | R-CA:1/8T 1K-J | DELETE | DELETE |

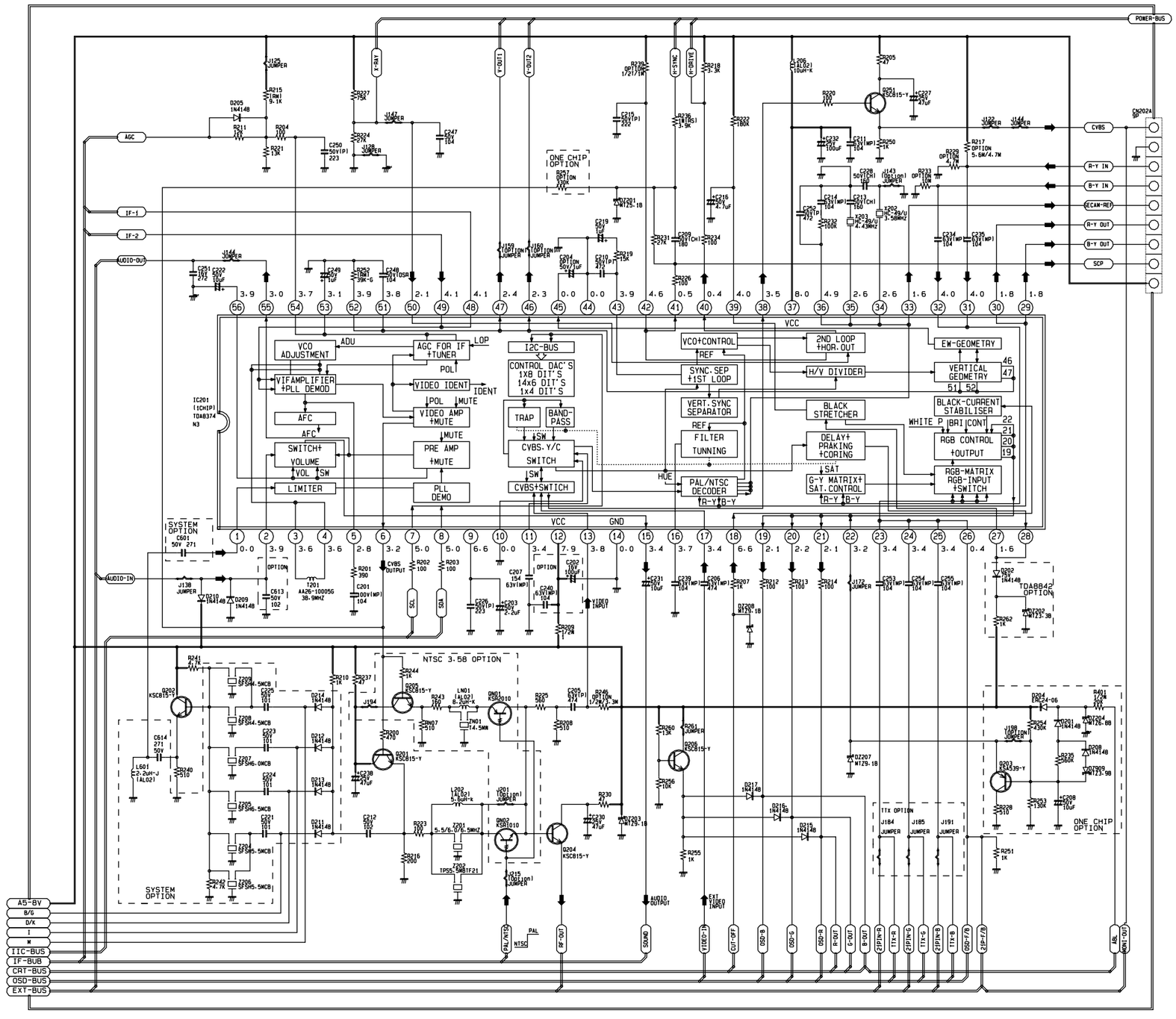
MICOM OPTION

| MICOM / LOC | Z89331 OTP | Z89332 MASK | Z90211 OTP | Z90212 MASK |
|---|---|---|---|---|
| C908 | C-CE:50V 6P(CH) | C-CE:50V 10P(CH) | C-CE:50V 10P(CH) | C-CE:50V 10P(CH) |
| C909 | C-CE:50V 33P(CH) | C-CE:50V 47P(CH) | C-CE:50V 10P(CH) | C-CE:50V 10P(CH) |
| C922 | DELETE | C-POLY:63V 104-J | C-CE:50V 47P(CH) | C-CE:50V 47P(CH) |
| C925 | DELETE | C-AL:16V 47uF | DELETE | DELETE |
| C927 | DELETE | DELETE | C-CE:50V 47P(CH) | C-CE:50V 47P(CH) |
| IC901 | Z89331GPSCR1789 | Z89332128PCS:MASK | Z90211GGPCS:OTP | Z90212GGPCS:MASK |
| J239 | DELETE | JUMPER | DELETE | DELETE |
| L904 | DELETE | DELETE | COIL-CHKE:13uH-K | COIL-CHKE:13uH-K |
| R944 | R-CA:1/8T 180K-J | R-CA:1/8T 68K-J | JUMPER | JUMPER |
| R945 | R-CA:1/2T 10M-J | R-CA:1/2T 10M-J | DELETE | DELETE |
| R957 | DELETE | R-CA:1/8T 510-J | DELETE | DELETE |
| X901 | X-TAL:32.768KHz | X-TAL:32.768KHz | X-TAL:6.0MHz | X-TAL:6.0MHz |
| R908 | R-CA:1/8T 1.3K-J | R-CA:1/8T 1.1K-J | R-CA:1/8T 1.3K-J | R-CA:1/8T 1.1K-J |
| R909 | R-CA:1/8T 3.6K-J | R-CA:1/8T2.2K-J | R-CA:1/8T 3.6K-J | R-CA:1/8T2.2K-J |
| RN901 | R-NET:4.7K*7-BP | DELETE | R-NET:4.7K*7-BP | DELETE |
| R939 | R-CA:1/8T 2.4K-J | DELETE | R-CA:1/8T 2.4K-J | DELETE |

MASTER/TACT-S/W OPTION

| S/W / LOC | MASTER-S/W | TACT-S/W |
|---|---|---|
| RN901 | DELETE | R-CA:1/8T 820-J |
| SW901 | DELETE | SWITCH-TACT:15V.20mA |

## 11-3 ONE CHIP/CHROMA Block




TDA8374(N3)/TDA8842 OPTION

| IC-CHIP LOC | TDA8374/N3 | TDA8842 |
|---|---|---|
| R235 | R-CA:1/8T 560K-J | R-CA:1/8T 20K-J |
| R254 | R-CA:1/8T 430K-J | DELETE |
| R253 | R-CA:1/8T 130K-J | DELETE |
| R207 | R-CA:1/8T 1K-J | R-CA:1/8T 15K-J |
| R217 | R-CA:1/8T 5.6M-J | DELETE |
| C301 | C-AXIAL: 50V/102 | C-AXIAL: 16V/222 |
| C302 | C-AXIAL: 50V/102 | C-AXIAL: 16V/222 |
| R301 | R-CA:1/8T 3.6K-F | R-CA:1/8T 3.0K-F |
| C234 | C-POLY: 63V/104P | DELETE |
| C235 | C-POLY: 63V/104P | DELETE |
| R222 | R-CA:1/8T 180K-J | DELETE |
| R228 | R-CA:1/8T 510-J | DELETE |
| DZ207 | DIODE-ZENER: MTZ9.1B | DELETE |
| Q203 | TRANSISTOR: KSA539-Y | DELETE |
| J189 | DELETE | JUMPER |
| C216 | C-AL: 50V/4.7uF | C-POLY: 63V/224P |
| C239 | C-POLY: 63V/104P | C-POLY: 63V/224P |
| C256 | DELETE | C-AL: 50V/1uF |
| X203 | X-TAL: PHILIPS4.43MHZ | X-TAL: KONY4.43MHZ |
| C228 | C-CERAMIC: 50V/160P(CH) | C-CERAMIC: 50V/101P(CH) |
| R257 | DELETE | R-CA:1/8T 330K-J |
| C215 | C-POLY: 50V/222P | C-POLY: 50V/103P |
| D215 | DIODE-SWITCHING: 1N414B | DELETE |
| D216 | DIODE-SWITCHING: 1N414B | DELETE |
| D217 | DIODE-SWITCHING: 1N414B | DELETE |
| R255 | R-CA:1/8T 1K-J | DELETE |
| R256 | R-CA:1/8T 10K-J | R-CA:1/8T 330K-J |
| R260 | R-CA:1/8T 13K-J | DELETE |
| Q206 | TRANSISTOR: KSC815-Y | DELETE |
| C252 | C-POLY: 50V/472P | C-POLY: 50V/102P |
| C214 | C-POLY: 50V/104P | C-POLY: 63V/473P |
| R232 | R-CA:1/8T 100K-J | R-CA:1/8T 150K-J |
| C601 | C-AXIAL: 50V/271 | C-AXIAL: 50V/271P |
| C614 | C-AXIAL: 50V/101P | C-AXIAL: 50V/271P |
| - | - | - |
| DZ202 | DELETE | DIODE-ZENER: MTZ3.6B |
| D202 | DELETE | DIODE-SWITCHING: 1N414B |
| R262 | DELETE | R-CA:1/8T 1K-J |
| DZ204 | DELETE | DIODE-ZENER: MTZ6.8B |
| J172 | JUMPER | R-CA:1/8T 6.8K-J |
| C208 | C-AL: 50V/10uF | C-AL: 50V/4.7uF |
| DZ909 | DELETE | DIODE-ZENER: |
| D208 | DELETE | DIODE-SWITCHING: 1N414B |
| R411 | R-METAL: 1/2T 91K-F | R-METAL: 1/2T 110K-F |
| R707 | R-CA:1/8T 470-J | R-CA:1/8T 47-J |
| R709 | R-CA:1/8T 150-J | JUMPER |
| R710 | R-CA:1/8T 150-J | R-CA:1/8T 510-J |
| Q704 | TRANSISTOR: KSA539-Y | DELETE |
| IC201 | CHROMA-IC: | CHROMA-IC: |
| R401 | R-CA:1/2T 20K-J | JUMPER |
| D201 | DIODE-SWITCHING: 1N414B | JUMPER |
| D204 | DIODE: ERC34-06 | DELETE |

INCH-OPTION

| INCH LOC | 21-INCH | 20-INCH | 15-INCH | 14-INCH |
|---|---|---|---|---|
| R253 | R-CA:1/8T 130K-J | R-CA:1/8T 120K-J | R-CA:1/8T 110K-J | R-CA:1/8T 110K-J |
| RX04 | RM 1/2T 3.9K-K | | | RM 1/2T 4.3K-F |
| RX06 | RM 1/2T 9.1K-F | | | RM 1/2T 12K-F |

SYSTEM OPTION

| SYSTEM LOCA-NO | CS-SYSTEM | CK-SYSTEM | CB-SYSTEM |
|---|---|---|---|
| L601 | INDUCTOR-AXIAL:2.2uH | COIL-CHOKE:5.6uH-K | COIL-CHOKE:5.6uH-K |
| Z209 | FILTER-CE:SFE4.5MCB | DELETE | DELETE |
| Z208 | FILTER-CE:SFSH4.5MCB | DELETE | DELETE |
| C225 | C-CE:50V 101(AXIAL) | DELETE | DELETE |
| D214 | DIODE-S/M:1N414B | DELETE | DELETE |
| Z207 | FILTER-CE:SFSH6.0MCB | DELETE | DELETE |
| C223 | C-CE:50V 101(AXIAL) | DELETE | DELETE |
| D212 | DIODE-S/M:1N414B | DELETE | DELETE |
| Z205 | FILTER-CE:SFSH6.5MCB | FILTER-CE:SFSH6.5MCB | DELETE |
| C224 | C-CE:50V 101(AXIAL) | C-CE:50V 101(AXIAL) | DELETE |
| D213 | DIODE-S/M:1N414B | DIODE-S/M:1N414B | DELETE |
| Z206 | FILTER-CE:SFSH5.5MCB | FILTER-CE:SFSH5.5MCB | DELETE |
| J194 | JUMPER | DELETE | DELETE |
| R244 | R-CA:1/8T 1K-J | DELETE | DELETE |
| Q205 | TR-SMALL SIGNAL:KSC815 | DELETE | DELETE |
| RN07 | R-CA:1/8T 510-J | DELETE | DELETE |
| R243 | R-CA:1/8T 100-J | DELETE | DELETE |
| LN01 | COIL-CHOKE:5.6uH-K | DELETE | DELETE |
| ZN01 | FILTER-CE:TPS4.5MM | DELETE | DELETE |
| QN01 | TR-DIGITAL:KSR2010 | DELETE | DELETE |
| L202 | COIL-CHOKE:5.6uH-K | COIL-CHOKE:5.6uH-K | COIL-CHOKE:8.2uH-K |
| Z201 | FILTER-CE:302M | FILTER-CE:TPS6.5MCB | DELETE |
| Z202 | FILTER-CE:TPS5.5MB | FILTER-CE:TPS5.5MB | FILTER-CE:TPS5.5MM |
| J201 | DELETE | JUMPER | JUMPER |
| QN02 | TR-DIGITAL:KSR1010 | DELETE | DELETE |
| J215 | JUMPER | DELETE | DELETE |
| C601 | C-AXIAL:25V 271 | C-AXIAL:25V 223 | C-AXIAL:25V 223 |
| C614 | C-AXIAL 50V 271 | C-AXIAL:25C 101 | C-AXIAL:25C 101 |

AREA OPTION

| AREA LOC.NO | CE | EXTRA |
|---|---|---|
| C202 | DELETE | C-AL 16V 100uF |
| C240 | DELETE | C-POLY 63V 104 |
| C613 | C-CERAMIC AXIAL 50V 331 | C-CERAMIC AXIAL 50V 102 |
| J200 | JUMPER | DELETE |
| J272 | JUMPER | DELETE |
| J273 | JUMPER | DELETE |
| R717 | R-CARBON 1/8W 15K | R-CARBON 1/8W 5.6K |

# 11-4 IF/Sound . EXT-A/V Block

AUDIO-AMP OPTION

| SOUND-AMP LOCA-NO | 3.5[W] * 2-CH[TDA7057AQ] | 2.7[W] * 1-CH[TDA7056B] |
|---|---|---|
| C611 | C-FILM-PEF:50V 472-J | DELETE |
| C612 | C-AL:50V/0.47uF | DELETE |
| CN601 | DELETE | CONNECTOR-HEADER:BOX-3P |
| CN602 | CONNECTOR-HEADER:BOX-4P | DELETE |
| CN701 | CONNECTOR-HEADER:AUTO-12P | DELETE |
| CN703 | DELETE | CONNECTOR-HEADER:AUTO-9P |
| D803 | DIODE-RECTIFIER:FML-G02S | DELETE |
| D805 | DELETE | DIODE-RECTIFIER:RGP-15G |
| IC601 | DELETE | ASSY-H/S:SOUND-TDA7056B |
| IC602 | ASSY-H/S:SOUND-TDA7057AQ | DELETE |
| J131 | JUMPER | DELETE |
| J134 | JUMPER | DELETE |
| J177 | JUMPER | DELETE |
| R605 | R-CA:1/8T 22K-J | DELETE |
| R606 | R-CA:1/8T 3.6K-J | DELETE |
| R814 | R-FUS:2T 0.47-J | R-FUS:2T 2.4-J |
| R815 | R-FUS:2T 0.47-J | R-FUS:2T 2.4-J |

MONO/21PIN/LINE STEREO OPTION

| SYSTEM LOCA-NO | MONO RCA-4P | LINE STEREO RCA-6P | 21-PIN SCART |
|---|---|---|---|
| C701 | DELETE | C-CE:50V 101[AXIAL] | DELETE |
| C705 | C-AL:50V 0.47uF[NP] | DELETE | C-AL:50V 0.47uF[NP] |
| C706 | C-AL:50V 0.47uF[NP] | DELETE | C-AL:50V 0.47uF[NP] |
| C707 | DELETE | C-AL:25V 47uF | DELETE |
| CN604 | DELETE | POST-HEADER:6P | DELETE |
| CN702 | DELETE | ASSY-LINE STEREO | DELETE |
| J195 | JUMPER | DELETE | JUMPER |
| J177 | JUMPER | DELETE | JUMPER |
| J186 | JUMPER | DELETE | JUMPER |
| J111 | DELETE | JUMPER | DELETE |
| JS701 | JACK-PIN:RCA-4P | JACK-PIN:RCA-6P | JACK-RCA*21P-SCART |
| L701 | DELETE | COIL-CHOKE:4.7uH-K | DELETE |
| L706 | COIL-CHOKE:4.7uH-K | DELETE | COIL-CHOKE:4.7uH-K |
| Q704 | DELETE | TRANSISTOR:KSA539-Y | DELETE |
| Q705 | DELETE | TRANSISTOR:KSC815-Y | DELETE |
| R601 | DELETE | R-CA:1/8T 100-J | DELETE |
| R712 | DELETE | R-CA:1/8T 5.6K-J | DELETE |
| R713 | DELETE | DELETE | R-CA:1/8T 5.6K-J |
| L704 | DELETE | COIL-CHOKE:4.7uH-K | COIL-CHOKE:4.7uH-K |
| C704 | DELETE | C-CE:50V 101[AXIAL] | C-CE:50V 101[AXIAL] |
| R602 | DELETE | R-CA:1/8T 100-J | DELETE |
| R701 | R-CA:1/8T 100-J | DELETE | R-CA:1/8T 100-J |
| R706 | R-CA:1/8T 1.2K-J | DELETE | R-CA:1/8T 1.2K-J |
| R707 | DELETE | R-CA:1/8T 470-J | DELETE |
| R708 | DELETE | R-CS:1/8T 47K-J | DELETE |
| R709 | DELETE | R-CA:1/8T 150-J | DELETE |
| R710 | DELETE | R-CA:1/8T 150-J | DELETE |
| R711 | DELETE | R-CA:1/8T 18K-J | DELETE |
| R712 | DELETE | R-CA:1/8T 5.6K-J | DELETE |
| J173 | DELETE | JUMPER | DELETE |
| J174 | DELETE | JUMPER | DELETE |
| ASSY | | | |
| RM701 | DELETE | DELETE | R-NET:33K/24K/75*3-6P |
| DZ701 | DELETE | DELETE | DIODE-ZENER:MTZ9.1B |
| DZ702 | DELETE | DELETE | DIODE-ZENER:MTZ9.1B |
| DZ703 | DELETE | DELETE | DIODE-ZENER:MTZ9.1B |
| Q703 | DELETE | DELETE | TRANSISTOR:KSA539-Y |
| R703 | DELETE | DELETE | R-CA:1/8T 1K-J |
| D701 | DELETE | DELETE | DIODE-S/W:1N4148 |
| R705 | DELETE | DELETE | R-CA 1/8T 330-J |
| DZ705 | DELETE | DELETE | DIODE-ZENER:MTZ9.1B |
| R716 | R-CA:1/8T 24K-J | R-CA:1/8T 24K-J | DELETE |

LINE STEREO FRONT-A/V OPTION

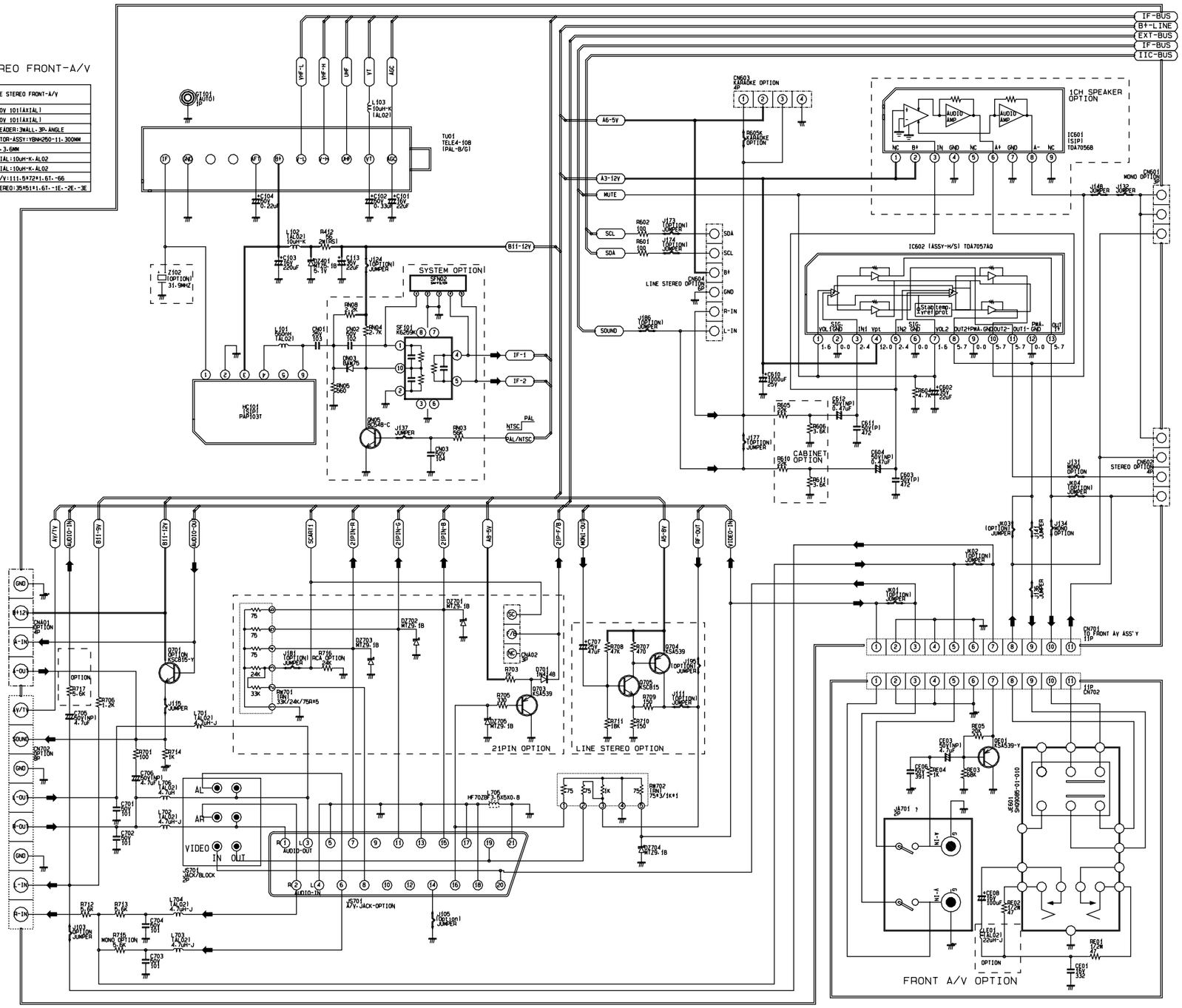
| F-A/V LOC | LINE STEREO FRONT-A/V |
|---|---|
| CE01 | C-CERAMIC:50V 101[AXIAL] |
| CE02 | C-CERAMIC:50V 101[AXIAL] |
| CN701 | CONNECTOR-HEADER:3WALL-3P-ANGLE |
| CN702 | LEAD CONNECTOR-ASSY:YBMH250-11-300MM |
| JA701 | JACK-RCA:3P-3.6MM |
| LE01 | INDUCTOR-AXIAL:10UH-K.AL02 |
| LE02 | INDUCTOR-AXIAL:10UH-K.AL02 |
| PCB | PCB FRONT-A/V:111.5*72*1.6T-66 |
| | PCB-LINE STEREO:35*51*1.6T-1E-2E-3E |

SYSTEM OPTION

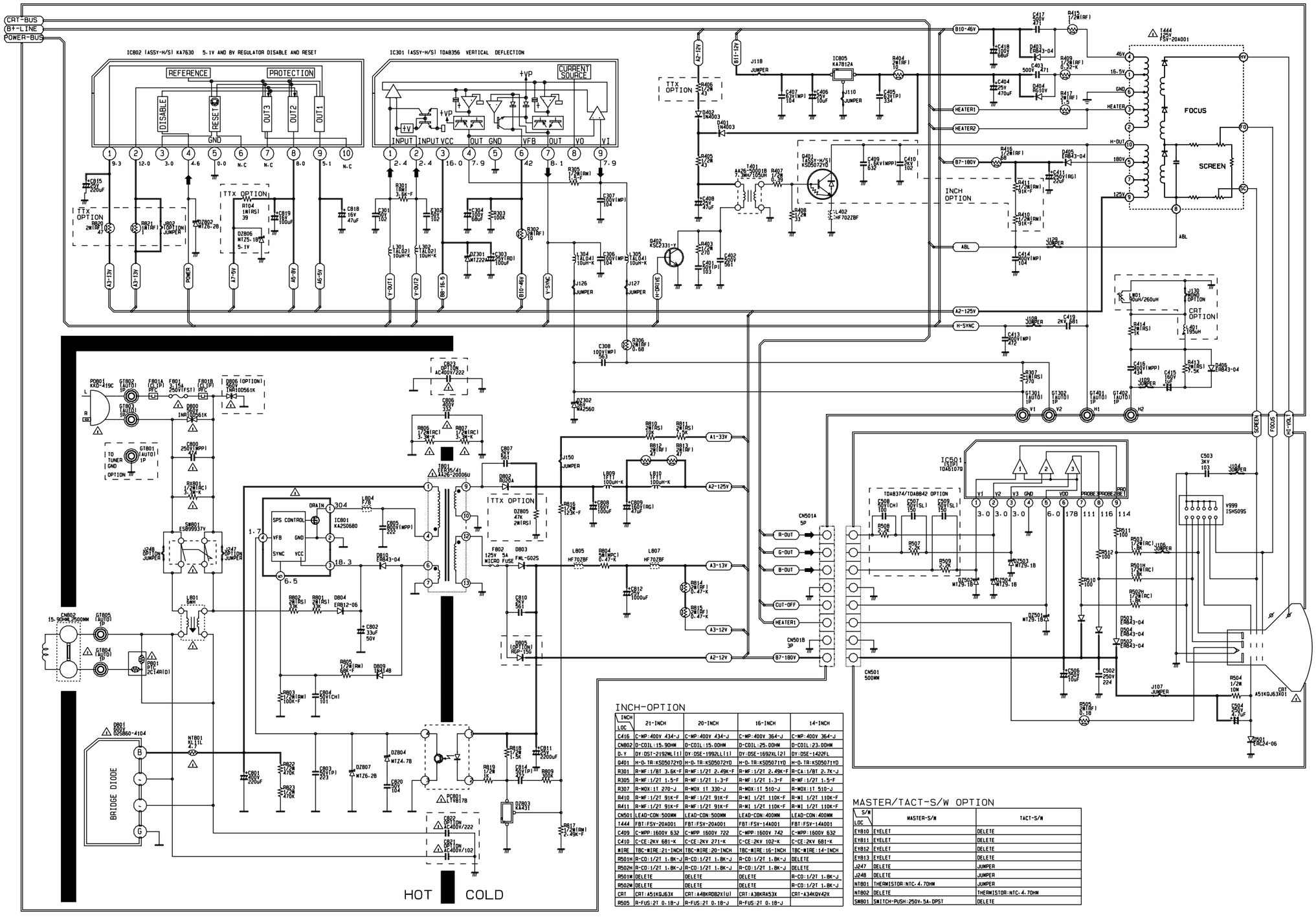
| SYSTEM LOCA-NO | CS-SYSTEM | CK-SYSTEM | CB-SYSTEM |
|---|---|---|---|
| J124 | JUMPER | DELETE | DELETE |
| RN08 | R-CA:1/8T 2.2K-J | DELETE | DELETE |
| RN04 | R-CA:1/8T 2.7K-J | DELETE | DELETE |
| CN02 | C-CE 50V 102[AXIAL] | JUMPER | JUMPER |
| DN03 | DIODE-S/W:BAW75 | DELETE | DELETE |
| RN05 | R-CA:1/8T 2.2K-J | DELETE | DELETE |
| QN05 | TR-SMALL SIGNAL:BC548 | DELETE | DELETE |
| J137 | JUMPER | DELETE | DELETE |
| CN03 | C-CE:50V 104[AXIAL] | DELETE | DELETE |
| RN03 | R-CA:1/8T 56K-J | DELETE | DELETE |
| SF101 | FILTER-SAW AV:K6259K | DELETE | DELETE |
| SFN02 | DELETE | FILTER-SAW AV:K2971M | FILTER-SAW A/V:G1963M |

FRONT-A/V DELETE OPTION

| LOC | FRONT-A/V | DELETE |
|---|---|---|
| JK01 | DELETE | JUMPER |
| C709 | DELETE | C-ELEC 50V 4.7uF NP |
| JK03 | DELETE | JUMPER |
| JK04 | DELETE | JUMPER |
| J141 | JUMPER | DELETE |
| J136 | JUMPER | DELETE |
| J134 | JUMPER | DELETE |
| CN701 | POST-HEADER:[1P.~8P.-73.-38 | DELETE |
| | POST-HEADER:9P.-73.-38 | DELETE |



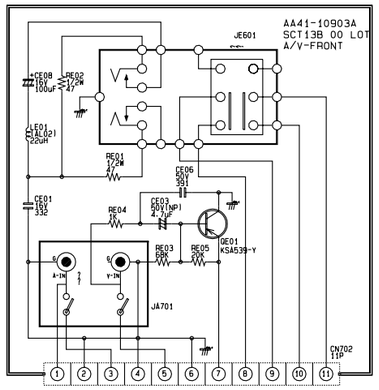
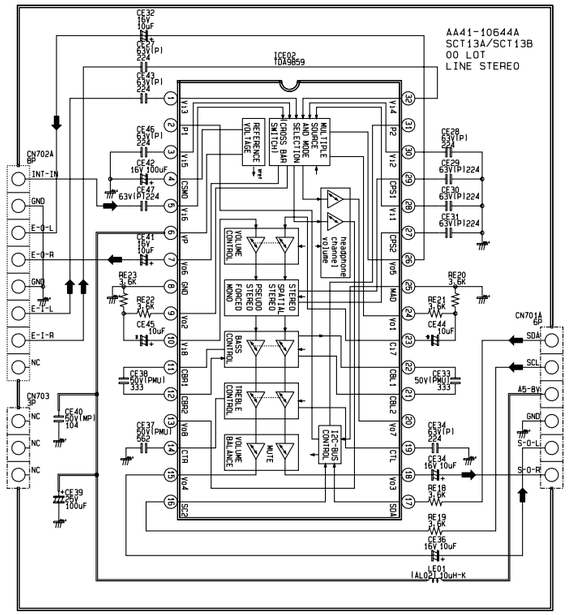
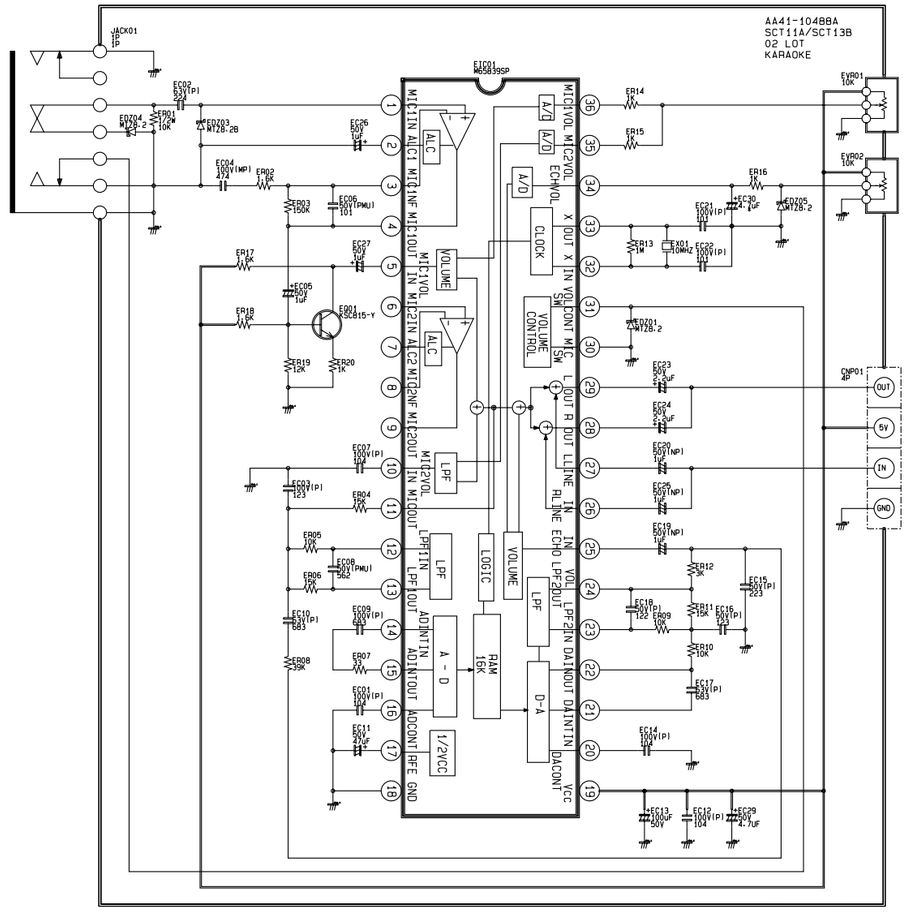
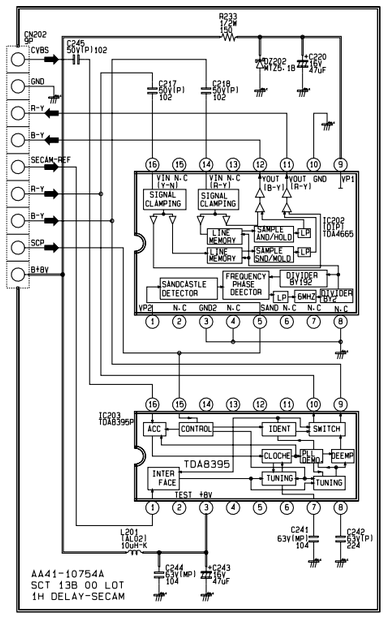
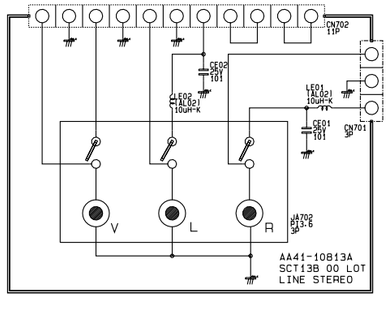
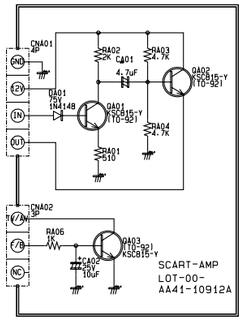
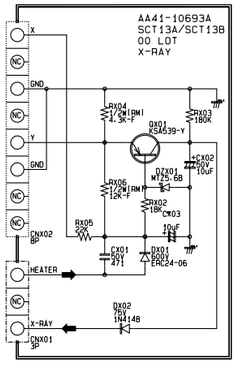
## 11-5 Power /Vertical /Horizontal /CRT




### INCH-OPTION

| INCH / LOC | 21-INCH | 20-INCH | 16-INCH | 14-INCH |
|---|---|---|---|---|
| C416 | C-MP:400V 434-J | C-MP:400V 434-J | C-MP:400V 364-J | C-MP:400V 364-J |
| CN802 | D-COIL:15.90HM | D-COIL:15.00HM | D-COIL:25.00HM | D-COIL:23.00HM |
| D.Y | DY:DS1-2192ML(1) | DY:DSE-1992LL(1) | DY:DSE-1692XL(2) | DY:DSE-1422FL |
| Q401 | H-D.TR:KSD5072YD | H-D.TR:KSD5072YD | H-D.TR:KSD5071YD | H-D.TR:KSD5071YD |
| R301 | R-MF:1/8T 3.6K-F | R-MF:1/2T 2.49K-F | R-MF:1/2T 2.49K-F | R-CA:1/8T 2.7K-J |
| R305 | R-MF:1/2T 1.5-F | R-MF:1/2T 1.3-F | R-MF:1/2T 1.3-F | R-MF:1/2T 1.5-F |
| R307 | R-MOX:1T 270-J | R-MOX 1T 330-J | R-MOX:1T 510-J | R-MOX:1T 510-J |
| R410 | R-MF:1/2T 91K-F | R-MF:1/2T 91K-F | R-MI 1/2T 110K-F | R-MI 1/2T 110K-F |
| R411 | R-MF:1/2T 91K-F | R-MF:1/2T 91K-F | R-MI 1/2T 110K-F | R-MI 1/2T 110K-F |
| CN501 | LEAD-CON:500MM | LEAD-CON:500MM | LEAD-CON:400MM | LEAD-CON:400MM |
| T444 | FBT:FSY-20A001 | FBT:FSY-20A001 | FBT:FSY-14A001 | FBT:FSY-14A001 |
| C409 | C-MPP:1600V 632 | C-MPP 1600V 722 | C-MPP:1600V 742 | C-MPP:1600V 632 |
| C410 | C-CE:2KV 681-K | C-CE:2KV 271-K | C-CE:2KV 102-K | C-CE:2KV 681-K |
| WIRE | TBC-WIRE:21-INCH | TBC-WIRE:20-INCH | TBC-WIRE:16-INCH | TBC-WIRE:14-INCH |
| R501H | R-CO:1/2T 1.8K-J | R-CO:1/2T 1.8K-J | R-CO:1/2T 1.8K-J | DELETE |
| R502H | R-CO:1/2T 1.8K-J | R-CO:1/2T 1.8K-J | R-CO:1/2T 1.8K-J | DELETE |
| R501M | DELETE | DELETE | DELETE | R-CO:1/2T 1.8K-J |
| R502M | DELETE | DELETE | DELETE | R-CO:1/2T 1.8K-J |
| CRT | CRT:A51KQJ63X | CRT:A48KRD82X(U) | CRT:A38KRA53X | CRT-A34KQV42X |
| R505 | R-FUS:2T 0.18-J | R-FUS:2T 0.18-J | R-FUS:2T 0.18-J | |

### MASTER/TACT-S/W OPTION

| S/W / LOC | MASTER-S/W | TACT-S/W |
|---|---|---|
| EYB10 | EYELET | DELETE |
| EYB11 | EYELET | DELETE |
| EYB12 | EYELET | DELETE |
| EYB13 | EYELET | DELETE |
| J247 | DELETE | JUMPER |
| J248 | DELETE | JUMPER |
| NTB01 | THERMISTOR:NTC.4.70HM | JUMPER |
| NTB02 | DELETE | THERMISTOR:NTC.4.70HM |
| SWB01 | SWITCH-PUSH:250V.5A.DPST | DELETE |

## 11-6 A/V Front, SUB